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The Bristol Medico-Chirurgical Journal

" Scire est nescire, nisi id me
Scire alius scierit."

JANUARY, 1925.

POSTGRADUATE MEDICAL EDUCATION.

The Presidential Address, delivered on October 8th, 1924, at the opening of the Fifty-second Session of the Bristol Medico-Chirurgical Society.

BY

J. ODERY SYMES, M.D., D.P.H.,

Senior Physician, Bristol General Hospital;
Chairman of the Medical Postgraduate Committee, University of Bristol.

THE initial, and indeed the most troublesome duty imposed upon the President of this Society is the selection of a subject for his inaugural address. The earlier Presidents chose some subject in medicine or surgery in which they were interested, or of which they had some special knowledge, and thereon based their discourse. More than one-half of our Presidents have followed this example. Dr. Lemuel Griffiths in 1887–88 made a new departure and gave a most delightful address on " Shakespeare and the Medical Sciences," and since that time there has been a succession of addresses of a literary or antiquarian character. We recall with great pleasure Dr. Rogers' address on " The Medical Aspect of Boswell's *Life*

of Johnson," Dr. Parker's on the foundation of our Society, and Dr. Nixon's on "The Debt of Medicine to the Fine Arts." A review of medical practice and experience from a philosophic standpoint has been the foundation of several addresses. Most of us will recall Munro Smith's on "The Medical Life," followed next year (1903–4) by Paul Bush on "Some Surprises in my Professional Career." Samuel Martyn, who was elected President for 1876–77, died before giving his address from the chair, and in the following year Augustin Prichard, with a rare courage, for which I envy him, omitted altogether the Presidential duty. In 1912 Dr. Walter Swayne dealt with "The Problem of Medical Education," and the remarks which I purpose making to-night are supplementary to, and in a strict sense consequent upon, what he then said.

POSTGRADUATE MEDICAL EDUCATION.

It is my purpose to-night briefly to call attention to the inadequate way in which present-day methods of education fit us for general practice, and to inquire how far these deficiencies may be made good by the efforts of societies such as our own, and more particularly by systematic, organised, scientific, and clinical postgraduate medical teaching.

We shall, I am sure, all agree that the curriculum of the present-day student is overcrowded. The preliminary studies in biology, chemistry, and physics should be totally removed from the medical syllabus. They can be, and they are, taught during the school years, and should be included in any school leaving certificate or matriculation examination. I am not sufficiently in touch with the physiological and anatomical departments to criticise their methods, but most of us who are clinical teachers will agree that the practical side of these sciences is too often forgotten, and that the average student is taught as if he were to be a future professor of physiology or anatomy. The adaptation of these sciences

to the needs of ordinary clinical work is quite lost sight of. If it were possible to classify undergraduate students according to their ability and future aims, it would result in a great saving of time for the average man, whilst at the same time better fitting him for the practical problems of medicine and surgery which he is about to meet in the wards. Our universities might then institute postgraduate courses in the preliminary sciences for those who are desirous of obtaining higher qualifications or becoming specialists.

Although three-fifths of our students are eventually to take up private practice, no effort is made to teach them even the rudiments of medical ethics or to instruct them in the many details that go to make up the successful art of visiting patients. The requirements of examining bodies, and consequently the schedule of university studies, make it imperative that the student should spend a large portion of his time in the study of a materia medica which is a hundred years behind the times, and of a pharmacology which has little relation to the needs of clinical practice. In consequence of this, the newly-fledged practitioner will find that just as his midwifery is handed over to nurses, and his fevers, tuberculosis, and venereal diseases to state and civic officials, so, owing to his unpreparedness, his work is gradually being encroached upon by the vaccinist, the psycho-therapist, the balnæologist, and the teacher of remedial exercises. It is, too, very largely due to the antiquated and very imperfect training given to our students that so many patients ultimately drift into the hands of the Christian scientist, the osteopath, and the cheiropractor. What we really want to do is to scrap entirely all our preconceived notions of what duties and subjects of study should occupy the hands and minds of our students during their phase of hospital attendance, and to begin afresh to apportion their time with a view to the requirements of modern practice and the newer

methods of thought which animate the medical world to-day. I have no system of reform of medical education to bring forward, but I wish to emphasize that our profession entails *a lifelong course of study*, and the rapid progress of medical science makes it imperative that if a man is to preserve his intellectual freshness he must at least take what Osler has very aptly called " a quinquennial brain-dusting." It is my purpose to indicate to you in what way English-speaking peoples throughout the medical world are grappling with their professional educational deficiencies, and are striving by various methods of postgraduate study to keep abreast of the times, and to maintain the high standard of scientific and practical knowledge which has always characterised the medical profession.

GREAT BRITAIN.

Turning our attention first to our own country. It is in London the most noteworthy effort has been made. The amalgamation of the Fellowship of Medicine with the Postgraduate Association was accomplished in 1919, and since that time postgraduate medical teaching has gone steadily forward. Nowhere else in the world is such a wealth of clinical material available. Some of the medical schools, the postgraduate college, and more than a score of general and special hospitals are available for intending pupils. Many of these hospitals admit only postgraduate students, and this is an enormous advantage to them, for it is most difficult to teach undergraduate and graduate students side by side. The courses roughly fall under two headings :—

(1) *Intensive General Courses* lasting two weeks, the object of which is to enable practitioners to brush up their general knowledge of medicine in its various branches, and

(2) *Special Courses*, which are designed to train our future specialists, or to advance the knowledge and technical skill

of men in practice who wish to perfect themselves in any one particular branch of their art. The special courses have proved the more popular, and their duration varies from two weeks to a month. During the past twelve months special courses have been held in such subjects as Cardiology, Children's and Infants' Diseases, Fevers, Neurology, Gynæcology, Ophthalmology, Proctology, Psychology, Urology, and Venereal Diseases.

Year by year the London Postgraduate School is attracting more and more students, rather more than half of whom come from the Dominions, the United States, the Continent, Japan, and South America. The one great need appears to be a central building worthy to house this most important and rapidly-growing institution, one which can supply the classrooms and laboratories necessary for teaching purposes side by side with an adequate number of beds for general cases. Such provision must either be made by private munificence or by State aid—and once made, London will become, as it is fitted to become, the greatest centre of postgraduate teaching in the world.

The progress of medical postgraduate education in the *provinces* is a problem which presents peculiar difficulties of its own. Most of the universities provide postgraduate courses, which have met with more or less success.

At Manchester a regular course is given at each of the three General Hospitals and at one or two of the Special Hospitals. At the Manchester Royal Infirmary an advanced course (covering recent advances in medicine and surgery) has been well attended, and has been more than usually successful. The average attendance at Manchester has been 30 to 40 at the regular postgraduate lectures and 60 to 70 at the advanced ones.

At Sheffield regular postgraduate lectures have been given during the six months of the winter, as it was found difficult

to secure attendances during the summer months. Two lectures per week are given for about five months.

At Liverpool lecture demonstrations for practitioners are given during the University terms; they are spread out over all the hospitals of the city, and are so planned that in any one day a demonstration is given in one hospital only—no fee is charged. The attendance is very variable, but it is found that many of the men are able to attend in the autumn term.

Birmingham has had postgraduate courses for the past twenty years, and seems to have met with considerable success. Last year the course extended over three months; the class has been held twice a week—for this there were 55 entries.

At Durham a general course of clinical demonstrations, meeting once a week, and spread over a period of three months, has met with a considerable degree of success, the attendance varying from 15 to 40. A vacation course lasting fourteen days, held in June, devoted to clinical lectures in general medical subjects, and post-mortem room demonstrations, was less successful. An interesting experiment was the provision of three months' courses in special subjects, such as Diseases of the Throat, Nose and Ear, Venereal Diseases, Gynæcology, and Diseases of the Skin. The meetings were held once a week, and were mainly clinical. A minimum of six persons formed a class, and the numbers have varied between this and eighteen.

In Scotland, postgraduate instruction at Edinburgh chiefly takes place during the summer vacation. Separate courses are given in Medicine, Surgery, Gynæcology, and Diseases of Children. In addition there are special courses in Diseases of the Blood and Vaccine Therapy, etc. A short course of eight to ten weeks on Diseases of the Nose, Ear and Larynx, particularly adapted for those who are training as

specialists, is held during the autumn or spring terms. The Edinburgh postgraduate courses in Medicine are in connection with the University and the School of Medicine at the Royal Colleges, and they attract large numbers from all over the country and from abroad. Special lectures are held in the evenings at 5 o'clock, open to all local practitioners, in addition to those enrolled for the course; many of the local men attend. Altogether medical postgraduate work in Edinburgh seems to be well organised and worthy of this very distinguished and ancient medical school.

A very efficient course of study is provided by the Glasgow Postgraduate Medical Association in connection with the University of Glasgow. A series of weekly demonstrations given during the winter has been a most successful feature. Courses are also arranged during the summer months; these are of a whole-time nature, and are of about four weeks' duration. The Association publishes a syllabus of the various courses, and from this it is evident they are utilising all the resources of the *Special* Hospitals of the city; and in the General Hospitals vacancies are found for graduates who are willing to act as clinical assistants. There are also special courses on Genito-urinary Surgery, Medical Ophthalmology, Fractures, and Surgical Diseases of Children.

In Wales the distinctive feature of postgraduate Medical work is the course on Tuberculous Diseases conducted by the Welsh National School of Medicine for the diploma of the University of Wales.

All the provincial Universities find that courses consisting of one or two lectures a week are much better attended and more appreciated than intensive whole-time courses of one week to a month. Although here and there the attendance at postgraduate classes is fairly satisfactory, at nearly every centre one hears the same complaint, viz. that only a very

small proportion of the medical men of the district are really anxious to take up any further course of study. The Secretary of one centre writes: "We find that the attendances on the whole are poor, and that a certain group of people—who really do not particularly require teaching—is the one which turns up time after time." Another writes: "Our attendance during the present term has dropped below ten. The Clinical Board feels that the lectures are well worth while if an average of ten is maintained; nevertheless ten out of a possible eleven hundred seems a very small number." From a third great provincial centre the Secretary writes: "We have met with considerable success in many ways, although the local practitioners do not avail themselves of the facilities offered as they should." There seems to be a very much greater keenness for postgraduate work in the North of England than elsewhere.

From a study of conditions in Bristol and the West of England, which one knows intimately, it is possible, I think, to visualise more accurately and minutely the extent to which postgraduate study is pursued throughout the medical profession. We have in the West a body of medical men of average keenness and average intelligence, living in a moderate-sized industrial town with fair facilities for post-graduate medical work, or residing in a country-side not too remote from educational centres. What steps does the average man take to keep abreast with the times, or up to date with his work? Undoubtedly the most widely-adopted and efficient measure is the taking of one or other of the medical journals—*The British Medical Journal*, *The Lancet*, *The Practitioner*, and our own *Bristol Medico-Chirurgical Journal*. Probably ninety per cent. of our profession read one or other of these journals, and their value in postgraduate teaching is extremely high. The small magazine published by the various big drug houses and the detached advertisements

of smaller drug manufacturers are faithfully read by many, and unfortunately are often taken as the sole necessary education in modern therapeutics and pharmacology. The second most powerful factor in postgraduate education is undoubtedly the local medical society. The scientific meetings of the various branches of the British Medical Association in the West and throughout England are a potent factor in keeping alive our interest in professional work and keeping us informed as to new departures. In most moderate-sized towns there are also societies such as our own where men meet socially to talk the inevitable "shop," and where clinical cases are shown and papers are read. Our Society, with its meetings and journal, its reading-room and its library, is to my mind the most potent post-graduate educational force in the town. At Bath there is the Clinical Society, and farther West the Plymouth Medical Society has been holding meetings for a hundred and twenty-six years. The Devon and Exeter Medico-Chirurgical Society, the Honiton and Axminster Medical Society, the Torquay Medical Society, and many others are all doing good work, and represent what is happening in almost every big town in the kingdom. The number of men who attend such societies or use their magazines or libraries is, it is to be feared, comparatively small. From a study of attendance at our library and medical societies, I calculate that only between 15 and 20 per cent. of the profession ever avail themselves of the facilities offered. Valuable as is the teaching thus afforded, it is not systematic enough, nor is it as a rule sufficiently practical to meet the requirements of the busy practitioner, and there has been therefore in all countries a steady and increasing demand for systematised postgraduate teaching. In the University of Bristol this has been met in two ways :—

(1) Courses of lectures and demonstrations on general

medical subjects have been held at the University, Hospital and Infirmary. These were given once a week during the summer months. The result was only moderately encouraging, the average attendance being about ten, and several of these were practitioners from the near country districts. An attempt to run a week of postgraduate study in some speciality (Ophthalmology) was even less successful, and had to be abandoned. Notices of these courses were sent to over five hundred doctors. (2) The second scheme, viz. the formation of classes in the smaller towns of the West of England, was much more successful, and for several years very well attended courses have been held in Trowbridge, Swindon, Barnstaple, Bournemouth, Dorchester and Hereford. In some cases these classes have been initiated by the local branch of the British Medical Association, and in others by private enterprise. The members of the class choose the subjects from a list sent by the University Director of Postgraduate Medical Studies, the lecturers all being members of the University staff. The meetings are held once a week for six or eight weeks, generally on the premises of the local hospital. The success of this experiment has excited much comment, and the procedure has been copied by other universities—one sees it referred to from time to time as " the Bristol Scheme."

Every year an increasing number of men apply for and are appointed to posts as clinical assistants at our principal hospitals, a most valuable method of postgraduate education. Immediately following the war there were a fair number of applications for refresher courses in general medicine, or in some speciality; such applications are, however, growing fewer, partly, I think, because it was found that the teacher was overwhelmed by the crowd of undergraduate students, only now just beginning to grow smaller. Other towns in the West of England have organised courses of postgraduate

study independent of the University of Bristol. At Plymouth the staff of the South Devon Hospital, in conjunction with the local division of the British Medical Association, have organised very successful courses during the past two winters. The lectures were spread over a period of ten weeks, and about thirty medical men attended. It was largely due to the initiative and energy of the late Mr. Forbes Fraser that the postgraduate courses in Bath were so successful. The Bath United Hospital was the centre, and the exhibition of clinical cases was a most attractive feature. I am informed that the actual number of Bath practitioners who attended was small, but that men from the country districts readily joined, and attended regularly.

It is evident from what I have already told you that the facilities for postgraduate medical study in some form or other are generally available both in town and country, but I am not exaggerating when I state that not one man in ten ever avails himself of the opportunities offered. There are several possible explanations of this: (1) The teaching offered is not attractive enough. In some cases the lectures are too purely scientific, and have not sufficient bearing on the everyday requirements of the practitioner. This, I think, is not common, for as a rule men welcome any advanced work or theoretical ideas which stimulate their thought. Lectures on the highly technical work of advanced specialists sometimes prove boring. More commonly the lecturer under-estimates the intelligence of his audience. A post-graduate lecture must be carefully arranged and clearly delivered. It must be the lecturer's *best* effort, and must serve at least two purposes, viz. the presentation of recent advances in the subject, and the useful adaptation of modern work and research to everyday practice. (2) Inability to spare the time and expense which a postgraduate course entails is a common excuse for non-attendance. Many a man

explains that he cannot afford to have both a holiday and a fortnight's refresher course, and he must have a holiday. At a time like the present, when the remuneration of the general practitioner is higher than it ever has been, the small fees which are charged for postgraduate courses are negligible. If a period of absence cannot be obtained, there can be but few men, other than those living in remote country districts, who cannot spare two or three hours on one day a week to attend some centre of instruction. The proof of this lies in the fact that here in Bristol, and in almost every provincial centre with which I have been in communication, it is found that the first men to join and the most regular men to attend are the practitioners from outlying country districts, who must be sacrificing at least half a day. The fact of the matter is that city practitioners do not find it necessary to keep themselves so fully up to date, or so practically efficient, as their rural brethren. In any emergency they can call in a fellow practitioner or a specialist, or seek the welcome oblivion of a hospital. I think you will one and all agree with me that one of the dangers of the Panel system in big towns is that scientific and practical interest in medicine may decline, and professional work become more and more commercialised. (3) Another objection to attendance at postgraduate courses which we have met with is, that if it were known that a man were doing such a course, it would be regarded by his patients as a reflection on his competence and knowledge. Such a view, however, could only be held by the more ignorant, and in any case it is necessary to educate public opinion in this matter. More and more medicine is becoming a State service, and I hope that the day is not far distant when no man or woman will be allowed to hold any post under State or Municipality, in the Services, or on the Panel, without producing at certain stated intervals a certificate showing that he has satisfactorily attended some

approved postgraduate course; such a course should be provided free of cost and whilst on full pay. (4) A very real difficulty in medium-sized towns in organising postgraduate work is that men are unwilling to attend lectures given by those in daily association and competition with them, and they also fear to import lecturers from neighbouring university centres, lest in doing so they should introduce to the district consultants who might attract work which is at present done locally. This difficulty, which is a real one, can only be overcome by a frank recognition of the fact that every man has something to contribute to the common stock of knowledge, and that a postgraduate clinique is not so much a place where one is teacher and the rest students, but rather a meeting of medical men on an equal footing to discuss and review points of common interest. The area served by consultants from a university centre is determined chiefly by geographical factors, and it is very doubtful whether the delivery of a postgraduate lecture is likely to extend the boundary. Indeed, the lecturer may, if he be not acceptable, very considerably curtail it. On the other hand, it is quite certain that wherever postgraduate centres have been formed the localities have tended to become more self-sufficing, and as the custom grows we shall more and more see country centres becoming increasingly independent of both the consulting physician and the operating surgeon. Everything that tends to raise the level of medical education in an area tends not only to increase the interest in the work but also to raise the standard of its remuneration.

UNITED STATES.

I think I have said enough to show you that although there is in this country a growing demand for postgraduate medical education, yet this demand is a limited one. We are not doing our best in this matter, and I doubt whether

the bulk of the profession is as keenly interested in the clinical and scientific sides of medicine as they were, say, twenty years ago. We do not compare favourably with our American brethren, for instance. From letters I have received, and from other sources of information, I gather that in the United States the general practitioner is closely associated with hospital work, he expects to have periodical times of study leave, and his patients realise that such periods of absence are necessary and are for their benefit. At the Annual Congress on Medical Education, Medical Licensure, Public Health and Hospitals, held in Chicago in March, 1923, the total number of graduate students enrolled in 1922 was stated to be 3,068. The matter has been well summarised in the report of an inspection of all graduate medical schools in the United States, made by the Secretary of the Council of the American Medical Association and Dr. Louis B. Wilson of the Mayo Foundation, in October, 1922. They note that there is a decided improvement in the character of the graduate medical schools since the survey in 1919. They are satisfied that whilst thorough work on the highest plane of university graduate study is in progress, yet the development of opportunities for graduate study is still far from adequate. Work on the lines of the Bristol scheme is growing, and increasing opportunities are afforded to county, state, and district medical societies to organise and operate once or twice each year diagnostic clinics, as well as extension courses of lectures and clinics given under the auspices of the Universities of North Carolina, Pennsylvania, Wisconsin, and Washington, and by several of the state medical societies and state university medical schools. Opportunities for postgraduate study in pre-clinical branches are afforded by several university medical schools to a greater extent than in this country, but there has been no material increase in the number of students availing

themselves of such opportunities. Postgraduate students in the States fall under one of two heads: (1) those preparing themselves for the practice of some speciality, (2) those desiring to improve themselves in general practice. The conditions governing specialists have been much the same as in this country, that is to say, the future specialist prepares himself by holding a resident post, clinical clerkship, or assistantship in some special clinic, and by self-proclamation determines when he is fit to practice, his qualification being that he pays a subscription to some association or society of specialists. Two universities, however (Minnesota and Pennsylvania), have well-organised courses for the efficient teaching of pre-clinical and clinical work in various specialities, and give degrees of Master of Science or Doctorates in the speciality selected. We have, of course, in England M.D. degrees and various diplomas in special subjects, but our difficulty is to obtain the special postgraduate laboratory and clinical teaching to qualify for them.

The second class of students, viz. those seeking refresher courses, are well provided for by lecture demonstrations and laboratory work; but as is pointed out, the courses are so brief that the student cannot be entrusted with full responsibility for the cases. Such courses are, I notice, generally longer and the fees are higher than in this country. For instance, the courses given for qualified graduates in medicine by the Columbia University extend over six weeks, and the fee is 200 dollars, and this fairly represents the conditions elsewhere.

The principles suggested for grading postgraduate medical schools in America are, I think, of some interest, and would apply equally well to this country. The report suggests that candidates wishing to qualify as specialists must not only graduate from a Class A medical college, but shall have completed at least one year's internship in an approved

hospital. The previous records of intending students must be sent in, so that the character and grade of the work may be rightly assigned. The college in which they work should provide review courses in the pre-clinical sciences which apply to the respective specialities ; clinics for the treatment of both in- and out-patients ; courses of operative and laboratory technique ; opportunities for taking the sole care of patients, and of pursuing research work in the speciality. Emphasis is laid on the fact that for refresher courses it is not sufficient to give lectures only, there must be ample clinical material such as can be provided by a hospital of at least 200 beds, and with an out-patient attendance of at least 100 patients a day. Library and museum facilities must be available, and all teachers must be of a high grade.

The distinctive features of American postgraduate education are as follows : It is almost entirely under the direction and control of university authorities, and this more than anything else gives it an added strength and prestige. It is realised throughout the country that postgraduate education is as important as undergraduate education ; and through the generosity of private benefactors postgraduate medical study is very largely provided with separate hospitals, laboratories and teaching quarters. In the United States the aim is more particularly the training of the specialist by a course lasting for two or three years, and at the end of that period a distinguishing degree is granted. It is recognised that a man so trained is an asset to the community, and he is therefore given pecuniary help in the form of scholarship or fellowship during his second and third years of study. Refresher courses are made to extend over a period averaging about six weeks, and the courses of lectures given at outlying centres are more highly organised than in this country, and the clinical material of the local hospitals is better utilised, the visiting lecturer finding the patients and records awaiting

his arrival, and being afforded time to study these before the conference begins. The number of teachers engaged is much larger than in this country, and it is recognised that their work must be adequately paid; also wider use is made of the system of intern appointments after qualification.

It would appear that the difficulty in America is that there is a very wide variation in the standard of graduates, and this is being met either by insisting that the candidates for post-graduate degrees must already hold a diploma of a Class A medical school, or by grading the candidates when they present themselves for registration, and then grading their work or insisting on a longer period of study.

It is not possible for me to enter into any detail about the courses provided by the various American colleges, but there are some with special features which I should like to mention. The New York Postgraduate Medical School has its hospital of 400 beds, an out-patient department with 800–1,000 patients a day, and a separate school of nursing. For forty years it has been engaged in teaching physicians, and there can be few institutions better equipped for the work. Columbia University affords most excellent opportunities for postgraduate study, and during the past year 160 graduate students attended. Columbia divides the workers into two divisions; the first are doing original investigation and have one year in residence, and the second are engaged in continuous education on the level of ordinary university extension work. The Graduate School of Yale University gives a doctorate in Public Health, a doctorate of Philosophy, and a Master of Science degree to men holding the M.B. of accepted standard. They require a term of residence of either two or three years, during which time a definite organised and formalised course is pursued. In addition to courses on general medical subjects, Harvard seems to afford special facilities for the pursuit of pre-clinical studies,

Anatomy, Physiology, and Biological Chemistry. Cornell and the Graduate School of Wisconsin University similarly have excellent classes on the scientific subjects, including opportunity for general and research work in Pharmacology and Toxicology. We have too few opportunities for such study in this country. The University of Pennsylvania affords very good facilities for student physicians, having access to some fifty institutions in Philadelphia. I notice one paragraph in the report for 1923–24 which is calculated to open our eyes: "Of the University's assets, $2,500,000 is the amount devoted exclusively to the Graduate School of Medicine; and the School has the advantage of participation, according to its needs, in the use of further University facilities to the value of at least $2,000,000."

Contrast this with the conditions in Bristol and elsewhere in Great Britain, where postgraduate education is practically an unpaid service supported by the public spirit of the medical profession. Pennsylvania grants certificates and degrees to successful regular student physicians. Such certificates, which must be clearly distinguished from diplomas and degrees, ought to be more generally given in this country and by our own University. They state the date of registration, the attendance, and the nature of work accomplished. The degree of Master of Medical Science is conferred after successful completion of a second year, and the degrees of Doctor of Medical Science upon completion of the third year of a regular course. There is a generous provision of scholarships and fellowships during these two years. The Rush Medical College of the University of Chicago, in addition to their graduate courses in Medicine and Preliminary Sciences for Physicians, have a somewhat new departure for those wishing to take up a speciality. In Otology and Laryngology there is to be a one year's full-time course, half of each day being spent in the study of the

fundamental sciences and the other half in the clinical study of patients. Only eight students are taken each year, two entering each quarter. The Mayo Foundation, now a part of the Medical School of the University of Minnesota, is a very active body ; a thousand candidates a year apply for graduate medical training, and about 200 a year complete their applications. The foundation has concentrated very largely on the production of specialists by a system of fellowships. The fellowships entail three years' graduate study and residence, in preparation for either the special degree of Master of Science or Doctor of Philosophy in Medicine, Surgery and Pathology, etc. Postgraduate work at Johns Hopkins University is limited at present, owing to structural alterations, to one course of six weeks' duration for general practitioners. At present the tide of students flows steadily from America to Europe, but the organisation of American Postgraduate Schools is so excellent, the equipment so complete, the financial support so generous, and the standard of study so steadily improving, that I venture to predict with confidence that in the next ten years the tide will be reversed, and we shall see an increasing number of postgraduate medical students from all nations seeking the refreshing courses of American medicine.

THE DOMINIONS.

I do not propose saying very much about the progress of postgraduate study in the Dominions, but would wish to draw your attention to a scheme very like our own (Bristol) scheme which has had a phenomenal success in Canada. The Ontario Medical Association, with the co-operation of the Medical Faculties of Queen's and Western Universities, and the University of Toronto, has been organising post-graduate work throughout the province through the county and local medical societies. In this they have had the co-operation of the Department of Health of Ontario, and

the generous annual contribution of $5,000 from the Ontario Red Cross Society. The work consists either of individual lectures, forming part of local society meetings, or of individual lectures to groups of members of county societies, who wish for special instruction, or of three or more lectures, properly correlated as to material and in proper sequence, making up a series. About 250 lectures are given a year. A schedule giving the titles of some 300 lectures is sent to each society, and when the choice of lecture is made, the name of the lecturer is given. Professor Austin (who is known to many of you) may indeed write that this is "A most up-to-date and progressive system. . . . the most complete in any province or state of Canada or the United States." The University of Manitoba gives a three weeks' intensive course for graduates usually at the close of the regular summer session. During the past two years the average attendance has been about twenty, which we should consider good in this country.

Professor Ferguson of the University of Otago, New Zealand, tells me that short postgraduate courses have not met with much success, as it is difficult for men in practice to obtain *locum tenens*. He states: "Our practitioners in New Zealand prefer to take longer spells than a short post-graduate course implies. Instead of coming to get rubbed up in their work every two or three years, they wait six or seven years, and then go home to Great Britain for six months' work there, or for six months' holiday with a certain amount of work thrown in. Some of them have taken regular classes at the Polyclinic or at one of the London hospitals, but of late there is a great tendency for them to go to America and spend their time in the clinics there. I think those who go to America do more solid work during their trip than those who go home. A visit to the Old Country has distractions in the way of friends to be visited and old ties

to be renewed, while those who go to America go to some particular centre for the sole purpose of studying the methods of some particular man."

Had time permitted I should have liked to tell you of the success of postgraduate medical work in Australia. There are courses at Sydney and Adelaide, both under University direction. In Victoria the arrangement of postgraduate courses is in the hands of a permanent Postgraduate Committee elected by the lecturers themselves, two representatives being sent from the Victorian branch of the B.M.A., and one from each of the following: the Faculty of Medicine of the University; one from each of the teaching hospitals; and the Director of the Hall Research Institute. For the fortnightly revision course the average attendance is 40 to 50; for the weekly winter evening lecture course 60 to 100. Much good work is also done by sending lecturers to such divisions of the B.M.A. as ask for their services at their quarterly meetings. Such enthusiastic support is given to the work that my correspondent is well justified in saying: "Throughout Australia the most gratifying response has been made to postgraduate work both on the part of those giving lectures and those attending them, and it is felt that this will increase as time goes on until all medical practitioners become accustomed to postgraduate instruction as an essential part of their training."

I think I have said enough to show you that there is at the present time in all English-speaking countries an awakening of interest in postgraduate study.

I must apologise for boring you with so big a mass of detail, but my desire has been that in viewing the progress made at so many and so important centres, we may be spurred on to further efforts ourselves. I am not referring now to the University, or to individuals, but more particularly to this great postgraduate body, the Bristol Medico-Chirurgical

Society. Starting afresh after fifty years of usefulness, in new premises, with added facilities for study, it is our duty, and it should be our pleasure, to do something to enhance the prestige and increase the usefulness of the Society. All can contribute to this end — by regular attendance at meetings, by enlisting new members, by contributing pathological material, papers, or cases for discussion, or by studying beforehand the subjects that are to come up at the meeting and preparing something to say. Those of you who have read Osler's *Æquanimitas* will remember the remarkable essay " On the Educational Value of the Medical Society." He says : " The doctor's postgraduate education comes from patients, from books and journals, and from societies, which should be supplemented every five or six years by a return to a postgraduate school to get rid of an almost inevitable slovenliness in methods of work." He then goes on to describe how the medical society lays a foundation for that *unity* and *fellowship* which is essential to the dignity of the profession ; how it should represent a *clearing-house* where each can receive his intellectual rating, and find out his professional assets and liabilities ; but its chief end and object must be to maintain and foster amongst its members a high standard of learning and a progressive knowledge of their professional work. Such ideals have guided the work of your Society in the past, and I cannot do better than close with Osler's words : " In the dedication of his *Holy War*, Thomas Fuller has some very happy and characteristic remarks on the bounden duty of a man to better his heritage of birth or fortune, and what the father found glass and made crystal, he urges the son to find crystal and make pearl. Your heritage has been most exceptional, and, I believe, from all that I know of the profession in this city . . . that could your fathers return they would say that of their crystal you had made pearl."

APPENDICITIS AS A CAUSE OF INTESTINAL OBSTRUCTION.[1]

BY

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FEW things in surgery are more remarkable than the behaviour of plastic lymph poured out by the peritoneum as a response to irritation. Though usually beneficial by closing perforations, or by walling off inflamed areas and so preventing widespread contamination, or by securing our crude surgical suturing of hollow viscera, yet occasionally the results are disastrous, as the lymph, even before organisation has properly occurred, may form bands or membranes which obstruct or kink the intestine and produce the unfortunate complication of intestinal obstruction.

Intestinal obstruction as a sequel to or a concomitant of appendicitis is fortunately not common, but on the other hand it is not extremely rare. The complication occurred 34 times in 1,011 cases of operation for appendicitis of which I have notes.

In addition there occurred in a certain proportion of cases a condition of loculated fibrino-purulent peritonitis associated with a certain amount of obstruction in which the lethal result was perhaps more from peritonitis than obstruction, and these cases have a very high mortality.

Until I began to look up the notes of cases I never appreciated the frequency and importance of appendicitis

[1] Read before a Meeting of the Bristol Medico-Chirurgical Society on November 12th, 1924.

as a cause of intestinal obstruction. Of 180 cases of obstruction upon which I have operated 68 were due to stricture (usually malignant), 54 were bands and kinks, 40 were intussusception; these are the big groups, the rest were volvulus 11, internal hernia 5 and gallstone obstruction 2. Now of the group of bands and kinks no less than 34 were definitely due to appendicitis, which makes it in my experience by far the most common cause of this form of obstruction. It is probably more common than these figures suggest, for these cases occurred either during or shortly after an attack of appendicitis, usually days or weeks, the longest no more than three months later. But in several cases of obstruction by bands the cause of the bands was not discovered at operation, and it is probable that a certain number of these were also the results of appendicitis.

Clinically, cases of obstruction due to appendicitis fall into two groups: (1) *Primary*, and (2) *Post-operative*. In the former group there were 13 cases, in the latter 21.

1. *Primary Obstruction.*—As a rule the whole affair is recent and acute, the symptoms suggesting acute obstruction, but possibly with fever and some localised tenderness and resistance in the right iliac fossa, suggesting something more than a simple obstruction. Of this type the following is a fairly typical example:—

A female, aged 70, ill twenty-four hours with repeated vomiting, abdominal distension and constipation. The temperature was subnormal, the pulse normal and there was tenderness in the right iliac fossa. Operation was performed immediately and showed an acutely inflamed appendix adherent to and kinking the lower ileum with marked distension of the gut above and emptiness of that below. Removal of the appendix from its lymph bed automatically released the gut and the patient made a good recovery. It was remarkable what a small amount of recent lymph, only a few hours or days old, could produce intestinal obstruction.

A similar clinical picture may be produced by obstruction of the lower colon with distension of the cæcum, which is becoming ulcerated and beginning to leak, and in a middle-aged or elderly patient the distinction between these two conditions is almost impossible.

A less common type is the following :—

A boy, aged 8, suffered with belly-ache and occasional vomiting for a month. His appetite was bad and he sweated at night. For two days before I saw him his bowels were not open and the vomiting was more urgent. When seen he had a typical abdominal facies, marked distension of the abdomen with visible peristalsis of small gut. The temperature was 100° F. and the pulse 100.

Operation.—Laparotomy was done immediately, and it was found that two or three feet of the ileum immediately above the cæcum were kinked and matted by adhesions, the ileum above was much distended and the cæcum and colon collapsed. An acutely inflamed appendix was removed from the middle of the matted ileum and the adhesions were broken down. As it was uncertain whether the intestinal contents would pass through such a length of injured intestine, a lateral anastomosis was made between the ileum above the kinked part and the cæcum, and also a valvular cæcostomy with No. 12 catheter was performed. The patient made a good recovery.

The mortality for 13 cases was nil.

2. *Secondary or Post-operative Obstruction.*—This form of obstruction was more common and far more fatal than the primary form, partly because of the difficulty of diagnosis, for it is not easy in the early stages to distinguish atonic ileus or early generalised peritonitis from obstruction by a recent band, partly because the patient has been ill longer and has already had one operation, so that vitality is more depressed. Of 21 cases in this group 7 died, *i.e.* about 30 per cent., which is the average mortality for intestinal obstruction in my experience.

Post-operative obstruction usually arises within a week of the primary operation with paroxysmal abdominal pain,

vomiting which becomes green and later brown and possibly a subnormal temperature. The latter is very suggestive when it occurs, but is likely to be masked by the irregular fever of an accompanying peritonitis. Less commonly the obstruction develops later, weeks or months after an attack of appendicitis, with well-developed fibrous adhesions and bands arising from the former plastic lymph. No doubt some of the bands which one divides in a case of acute obstruction are of appendical origin, but not proven as such, and not therefore included in this series. The following is an example of a late case of intestinal obstruction definitely appendicular in origin :—

A male, aged 42, was operated on for suppurating appendicitis three months ago, the appendix was removed and the abscess drained. Attacks of abdominal pain with distension and vomiting followed. These were relieved by enemata, but the attacks were recurring and becoming worse.

On examination there was a well-marked incisional hernia, a tense and distended abdomen, a pulse of 100 and an anxious expression.

Operation was undertaken at once.

Laparotomy was done through the previous scar in the right iliac fossa. The lowest foot of the ileum was badly kinked up by adhesions, the gut above being red and distended, the colon empty and contracted. After freeing the adhesions the gut was raw over an extensive area, and it seemed probable that kinking might recur, so an ileo-cæcostomy was done to short-circuit the kinked part of the ileum, the ventral hernia was repaired in layers with overlapping. He made a clean recovery. Later he developed acute cholecystitis.

Diagnosis.—Complete diagnosis may not be easy, but is less important in the primary cases, since in these it is usually pretty clear that the condition is one of "acute abdomen," with signs pointing partly to obstruction and partly to some inflammatory affection and that operation is urgently indicated. The only noteworthy point is to open the abdomen by the paramedian incision rather than

in the right iliac fossa, so as to give plenty of room if adhesions have to be dealt with or an anastomosis performed.

In the post-operative type diagnosis may be difficult and is extremely important, as on the one hand one wants to relieve a true mechanical obstruction as soon as possible by operation, on the other one does not want to further handle and abuse inflamed intestine when the condition is really one of peritonitis and ileus.

A sudden attack of paroxysmal pain with rising pulse and falling temperature, occurring in a patient who has been going on smoothly after the first operation, is fairly suggestive of obstruction when associated with bilious vomit becoming brown, with a soft abdomen, and in such cases there should be no delay in opening the abdomen. But where the condition is a mixture of obstruction with suppurative peritonitis diagnosis and treatment are alike difficult.

The following is a good example of this type of case :—

A girl, aged 15, with a history of two days. At the first operation a gangrenous appendix was removed through a gridiron incision, and as it was surrounded by foul pus the wound was drained for two days. The patient did well for some days, then began to have irregular fever and per rectum signs of a pelvic collection. This was opened by a medium incision on the thirteenth day and proved to be of some size. It was drained with a large tube. Irregular pyrexia persisted, and a fæcal fistula developed. The condition was not satisfactory, but there was no evidence of loculated pus. Twenty days later, *i.e.* thirty-three days from the first operation the patient had severe abdominal pain and vomited eight times in the night, the temperature became subnormal and the face markedly abdominal.

A third operation was done, a higher mid-line incision being used, and many adhesions were broken down and a very small loculated abscess found and drained. It did not appear to be a very satisfactory operation, but the patient slowly recovered and was playing hockey three or four months afterwards.

This seemed to be mainly a case of fibrino-purulent peritonitis which incidentally developed obstruction.

Treatment.—In the cases quoted I have already referred to several of the methods possible. In most instances it is fairly simple dividing a band or bands of recent lymph, which can be done with the finger; only in the types of later onset do the adhesions require cutting. More important is the question of further treatment, such as drainage or anastomosis. When the gut above the obstruction is very distended and the contents do not readily flow past the seat of obstruction after its division the gut should be tapped with a medium trocar and gas and liquid fæces let out and the puncture closed with purse-string suture. If the condition of the gut still appears doubtful a temporary fæcal fistula should be made, and I have found an ileostomy of the self-closing type quite satisfactory, using a No. 12 catheter as a drain.

Where a large amount of small gut is matted, and it is doubtful if it will not rapidly become obstructed again, a short circuit should be done, usually an ileo-cæcostomy to which a valvular cæcostomy may with advantage be added in the more acute cases, as suggested by Handley some years ago for the condition he calls ileus duplex. I am doubtful of the occurrence of this condition as he describes it, viz. a block of the ileum and sigmoid at the same time. The ileus is, however, certainly duplicated in many cases in another sense, I mean that there is peritonitic as well as obstructive ileus. The effect of an ileo-cæcostomy with a cæcostomy is very similar to that of a simple ileostomy, and possibly better where the patient will stand this further manipulation.

Since I wrote the above an interesting paper on the same subject has appeared by Rayner of Manchester,[1] in which he mentions cases very similar to those I have described, and his conclusions are very similar to mine,

[1] *B.M.J.*, i., 1924, p. 855.

except that in the treatment of post-operative obstruction he advises the use of stomach tube and morphia for one or two days before proceeding to operation and quotes a successful case. Personally I think that twelve hours is long enough to persist in such cases unless marked improvement is noted, and should think that ileus relieved by such treatment is more probably peritonitic than true obstruction.

Another paper bearing on this subject was from America. I have lost the reference. The author of this found that tube drainage in the right iliac fossa was followed far less by post-operative obstruction than where the drain was in the mid-line. I have not enough data to criticise this statement. I have usually employed the gridiron incision and all the post-operative cases have been drained, usually with the drain two days in the abdomen and a few more days in the abdominal wall, *i.e.* all the post-operative cases followed a fairly severe peritoneal infection whether localised or not.

DISCUSSION.

The PRESIDENT thanked Mr. Warren for his interesting and valuable contribution, on which discussion was invited. As a physician he would be glad to hear whether Mr. Warren could recommend any measures that tended to prevent these post-operative obstructions. He recalled the late Mr. R. Poole Lansdown's advocacy of abdominal massage as soon as practicable after operation for appendicitis with a view to preventing the occurrence of adhesions.

Mr. RENDLE SHORT remarked that these cases of intestinal obstruction following appendicitis were often difficult to diagnose from peritonitis and from ileus, and that visible peristalsis was the most conclusive sign. In cases of ileus, when all other means of obtaining an action of the bowels had failed, he had several times seen lives saved by the

"triple attack"; this consists of giving a dose of two minims of croton oil, then four or five hours later a turpentine enema, and whilst it is still in the bowel a hypodermic of pituitary extract. Of course, this will not avail if there is an authentic obstruction. Under those circumstances ileostomy under novocain anæsthesia may be safer.

Mr. FERRIER WALTERS pointed out that these post-operative obstructive adhesions were not seldom difficult to diagnose, and that he regarded vomit becoming fæculent, after an interval of 48 to 72 hours free from this symptom, as suggestive of inflammatory obstruction. He preferred the pelvic drain, and had given up draining from the wound. It was important to take care that no coil of intestine was allowed to intervene between the drainage tube and the bladder. He would like to hear from Mr. Warren how often he had met with cases of Sampson Handley's ileus duplex. As to the incision, he invariably used Battle's incision, on females, where a doubt existed as to diagnosis, since this incision lends itself to such other operations as might prove necessary in cases in which the diagnosis proved incorrect. He used the gridiron, however, in men and children, as there is little liability to subsequent hernia, and one could get the patient up within a week.

Mr. CHITTY, referring to the suggestion that obstruction was more often seen when Battle's incision was employed than when Mc Burney's operation was performed, said that obstruction was more common when pelvic drainage was necessary, and he considered that approaching the appendix from the inner side, as in a Battle's incision, had been more often followed by obstruction in his own cases than when he had adopted the gridiron incision, and so approaching the appendix more laterally. Consequently he preferred the latter incision unless the presence of pelvic suppuration was suggested by rectal examination, or unless

some doubt as to the diagnosis renders a more extensive exploratory incision advisable.

Mr. TASKER said that he had used Battle's incision in over two hundred appendicectomies, and had only encountered two cases of post-operative obstruction. He had come to the conclusion that if a drainage tube had to be used, post-operative hernia more often followed McBurney's incision than if Battle's incision was used.

Mr. LACY FIRTH stated that after using the gridiron incision for many years he was led to adopt Battle's incision, which had the advantages in his opinion of giving a better exposure and of being easily extended for further investigation when the diagnosis was doubtful. He had not met with the cases of mechanical obstruction in acute appendicitis which Mr. Warren had described. The obstruction cases he had met with had been considered to be due to spreading peritonitis and treated as such.

Mr. RICHARD WARREN, in reply to points raised during the discussion by various speakers, said that he believed it was difficult to attribute the prevention of adhesions to any method adopted to that end, and he doubted whether massage of the abdomen avails or makes a material difference, although early movements of the patient while still confined to bed might be helpful. Mr. Short had referred to visible peristalsis soon after operation as a valuable diagnostic sign, but he had found visible peristalsis, at any rate in acute cases, was somewhat late in appearing, and if present he would have no hesitation in opening up the abdomen at once. The " triple attack " was too prolonged in action for an acute case which requires quick operation, but for the less acute the method might prove of value, though he felt a decided objection to employing croton oil. Mr. Warren said he had not encountered ileus duplex, and though he had cited Sampson Handley in this connection,

he did not agree with him. Nevertheless, the method seems to have worked well. In ileo-cæcostomy with the tube in the cæcum one obtained direct rapid drainage of fæces from the ileum through the cæcum. He agreed that inflammation of a retro-cæcal appendix is more apt to be followed by adhesions than that of the more usually located appendix.

A COMPARATIVE REVIEW OF SPINAL AND PERIPHERAL NERVE INJURIES.[1]

(With illustrative cases.)

BY

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THE misfortunes under consideration are remarkable both in the dramatic effect of their onset and in the very slow process of their recovery. In them the task of diagnosis is often not an easy one, for nerve injury is apt to be disguised by marked bruising of the tissues and fracture or dislocation. During the restoration of function, which may take months or years, the unfailing co-operation of the patient must be maintained, often an irksome appliance has to be worn, and always hopes of recovery must be encouraged. From the patient's point of view, though it but rarely demands life itself, it frequently entails the temporary or permanent loss of use of a limb. Such features make the subject one of vital importance.

[1] Case Demonstration at the meeting of this Society, November 12th, 1924.

Included in this article are notes of part of the clinical material which inspired its composition. Among them features of singular interest are :—A case of medio-ulnar recovery with a gap, the precise localisation of compression in a case of delayed ulnar paralysis, and a note on the action of the lumbrical muscles.

The Varieties of Nerve Injuries may be classed as deliberate and accidental.

A. *Deliberate Injuries.*—The surgeon intentionally divides nerves in the following instances : (1) Posterior rhizotomy,

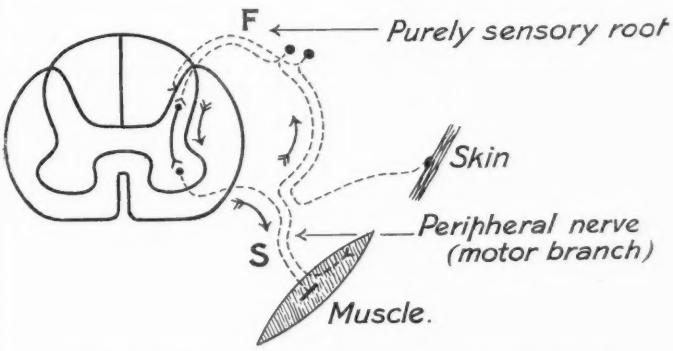

Diagram showing sites for nerve division in Færster's (**F**) *and Stoffel's* (**S**) *operations.*

i.e. division of the sensory roots of the spinal cord. The purpose of this (Færster's operation) is either to stop painful impulses from the nerves concerned passing to the brain (as in tabetic crises or intolerable neuritis), or to eliminate spasticity in muscles. The latter effect is due to the fact, that section of the posterior root breaks the reflex arc, preventing sensory impulses reaching the spinal cord from the muscles concerned. On the integrity of this arc muscle tone depends in part. So the surgeon cuts post-nerve roots to eliminate the crippling spasm of muscles,

like the adductors of the thighs in Little's disease (spastic diplegia). The analgesia or hypotonia required can be produced, and yet the use of essential muscle groups, such as the quadriceps extensor is preserved, if the series of roots divided is not quite continuous.

(2) The peripheral nerves are cut: (*a*) at amputations, (*b*) in resections of nerves for tumour or incurable neuritis, (*c*) in Stoffel's operation, *i.e.* division of the nerves to over-acting groups of muscles which has recently come into favour. This serves to restore muscle balance in a leg where there is adductor or equinus deformity resulting from spastic paralysis.

B. *Accidental Injuries.*—Cases fall into three groups. (1) During operations in the vicinity of nerves, such as the uluar at the elbow, a nerve may be divided, ligated, or bruised. The onset of symptoms may be delayed. (2) As a result of a single severe accident nerves are apt to be divided by incised wounds chiefly near the wrist. The fractures in which nerves are involved most often are those of the humerus, while cases of delayed onset tend to follow injuries to nerves about the elbow. Commonly in civilian practice the nerve is only bruised or partly divided, often the onset of symptoms is delayed, and spontaneous recovery is frequent. (3) The result of repeated minor injuries or continued pressure, *e.g.* "crutch palsy" and "cervical rib."

Symptoms are organic and functional. In onset they may be immediate, delayed, or recurrent. In the last group symptoms occur at the time of the initial bruising. They pass off in a few days, but reappear later, owing to peri-neural fibrosis or ossification.

The symptoms vary according to the proportion of the different nerve elements present in any particular case. Thus with division of the musculo-spiral and 5th cervical

nerve root there are marked motor but trifling sensory changes.

Loss of sensation in complete nerve division is accompanied by a notable absence of pain, whereas the reverse is often true in partial lesions. The comparatively small area with lost deep sensibility (pressure on tendons, bones, and joints) calls for explanation. When a nerve trunk is divided in the lower part of a limb sensory fibres to deep structures will escape, because they have already left the nerve high up and run down in the muscle substance and tendon.

The paralysed muscles wither, and are prone to overstretching by unchecked antagonists. While after the tenth day the characteristic "reaction of degeneration" occurs, and trophic signs appear in the skin, and nutrition of bones and joints suffer.

Partial nerve lesions may show mainly paresis, or be associated with marked pain. In the case of median and sciatic nerves such injuries, when associated with excessive scar formation (as in war wounds), induce the very painful condition termed "causalgia," in which the dominant symptom is an intense burning pain (hence the name of the condition), which is relieved by immersion in water or rendered excruciating by pressure.

In connection with the diagnosis of nerve injuries the functional factor provides an unpleasant trap, as in the following instance. A collier was sent me by his doctor, suffering from marked varus deformity and pain in the right foot. It had persisted four weeks since a severe wrench of ankle. I diagnosed sprained external lateral ligament and treated him accordingly. At the end of three months, however, he relapsed, and the deformity was as bad as ever. Shortly after a surreptitious glance at him as he was dressing himself revealed the foot quite straight and ready to slide into his boot!

Treatment.—In order to estimate the progress of recovery it is necessary to map out the distribution of the paralysis at the outset. Treatment varies with the class of iujury.

A. *Open wound absent.*

Splintage to relax both nerve and palsied muscles. Warm covering and electro-therapy, and, if there is no recovery after six months, exploration is advisable. Callus may call for removal in cases of delayed onset.

B. *Open wound present.*

When the toilet of a wound is performed nerves in the neighbourhood should be investigated. If divided they are resutured, and in all cases they should be diverted along undamaged tissues if possible.

Recovery.—Sensation returns first, and is heralded by the appearance of Tinel's sign of "distal tingling on percussion." This depends on the fact that the advancing ends of regenerating fibres are tender for a time, during which, in common parlance, "life is returning to the part." If the surface-marking of the nerve is used as a guide and one percusses along its length, starting distally, when one reaches the level of the growing end of the nerve the patient will complain of a tingling pain referred to the area of distribution of the nerve. Feeling in the paralysed region begins to return about the third month, but for some weeks only an unnatural tingling occurs, no matter what form of stimulus (touch, pin-prick, or thermal) is applied.

Motion returns at about twelve to twenty-four months.

Late Operation.—If recovery fails to commence at the expected time, the safe rule is to advise operation, on the assumption that the nerve has been divided or compressed, and the ends are out of contact. Before intervening thus one must be sure that the nerve is capable of regeneration (ant. cornual cells atrophy after three years' disuse), and

that the tissues to which the nerve is to regrow are supple and capable of responding to stimuli.

The ends of the nerve are identified with certainty by full exposure. They are pared down until healthy nerve bundles are seen, and then sutured with care to avoid tension and torsion. The need for the last precaution is based on the fact that fibres are not mixed indiscriminately in the nerve trunk, but segregated into bundles according to function. Just as various motor and sensory tracts can be plotted out on a transverse section of the spinal cord, so we are discovering that the fibres seen at the cut end of main nerves are arranged in groups according to varying functions. At once the risk during re-union of disturbing this relationship becomes obvious. For example, little use could result from joining, however neatly, a motor bundle, sending impulses downwards, with a sensory bundle. If such were done motor fibres destined for motor-end plates would reach sensory nerve endings in the skin! To this complication the frequent failures after suture of mixed nerves are due.

Gap Cases.—In some cases a gap is present between the divided ends, and how to bridge such has long been a vexed problem. Thanks to the ample experience in the recent war we are now certain that there is no efficient substitute for direct union of the severed ends, and that alternatives, such as nerve graftings, are valueless. The following means help to overcome the difficulty: (1) extensive freeing of the upper and lower ends; (2) two-stage suturing—after preliminary suture under tension the nerve may have stretched enough to allow satisfactory union some weeks later; (3) displacement—an inch is gained for the ulnar nerve if it is transferred from back to front of elbow; (4) resection of bone—accommodating the length of limb to suit the nerve.

Prognosis.—In a comprehensive review of late results of end-to-end suture of nerves injured in the recent war Platt and Bristowe (*Brit. Journ. of Surg.*, January, 1924) state "complete failures will be found in about twenty per cent.," and the "musculo-spiral heads the list of recoveries, and may be expected to show practically complete restoration of function in at least fifty per cent. of the successful cases."

Hopeless Cases.—If nerve regeneration fails useful movement may be obtained in certain cases by tendon transplantation, as in the successful conversion of flexors of wrist into extensors in cases of musculo-spiral palsy. Finally, some mechanical appliance, such as a splint or walking-iron, may be the best that can be done to help the cripple. Happily a permanent ulnar palsy is but a slight handicap, although the insensible weak index finger in median cases is very disabling.

Traumatic Neuritis.—Every case of this sort without obvious cause should be cautiously reviewed to exclude functional disease before advising operation.

One of the common examples is found after amputations where the nerves have been cut flush with the other tissues and are caught in scar or exposed to pressure at the end of the stump. This should be avoided by severing the nerves individually an inch or so higher than the bone, and must be remembered even where digital nerves are concerned, otherwise the risk of a second operation will be incurred.

Operative measures employed, in addition to local neurectomy, include the injection of alcohol (seventy per cent.) into the nerve proximal to the lesion, Leriche's operation of decortication of the sympathetic plexus from the main artery of the limb, and as a last and somewhat dangerous resort Fœrster's operation of section of the posterior spinal roots.

Illustrative Cases shown at the Meeting.

Case 1.—*Baby H., aged 4 months. Birth palsy and recovery.* Suffered considerable trauma during a difficult birth eight days before she was brought on August 10th, 1924, when I found Erb's palsy (L), fractured shaft of humerus (R) and parietal cephalhæmatoma (L.)

When shown three months later she was fully recovered.

I have had similar cures with two other cases, in both of which there was a homolateral fracture of the humerus. The occurrence of these palsies depends on the fact that the roots of the brachial plexus are liable to stretching by vertical traction on the arm. The stress falls chiefly on the upper roots (Erb's palsy) if the pull is downward, or on the lower roots (Klumpke's palsy) if upward. In Erb's palsy the fifth cervical root mainly suffers, and the limb assumes a characteristic position described as that of "policeman awaiting a tip," *i.e.* with the palm looking upwards and backwards at the end of the dependent and inwardly rotated arm. This is due to paralysis of deltoid, external rotators of shoulders, flexors of elbow and extensors of wrist. The treatment used in all my cases was postural, the arm being kept raised with the hand against the nape of the neck. This relaxes the affected part of the plexus and the paralysed muscles. Birth palsy may be present without fracture. Good return of power is the rule, but is the less likely the more extensive the lesion. If permanent palsy remains in the upper root lesions the faulty muscle balance leads, after a year or two, to a characteristic attitude called "the stomach-ache position." In this case the head of the humerus is pressed to the back of the glenoid cavity and the pronated hand is carried across the abdomen. I have had one such case, aged eight years, which illustrated well the fact that, owing to contracture of the unantagonised muscles (*e.g.*, subscapularis) in front of the shoulder-joint, the limb, if rotated outwards passively and released, swings back briskly on to the abdomen again like a spring-door. In such late cases correction by tenotomy and capsulotomy may restore useful freedom to the limb.

Case 2.—*W.L., aged 49 years. Sub-total brachial palsy with good recovery.*

December 6th, 1923. A subcoracoid dislocation occurred at the left shoulder and was reduced. About a week later extensive paralysis of the arm ensued. Pain was slight and sensory loss was confined to the hypothenar eminence, but the whole limb hung limp and motionless by the side except for slight, ineffective movements of some muscles at the shoulder and elbow.

He was able to resume work in July, 1924, and on Nov. 12th, 1924, had full range of movement and good power.

Case 3.—*W.H., aged 7 years. Lesion of musculo-spiral nerve with compound fracture of the humerus. Partial recovery.*

November, 1922. A typical wrist drop followed shortly after a very severe motor-lorry accident, with compound fracture of the humerus. A duralumin wire cock-up wrist splint with thumb-ring was applied.

February 20th, 1923. A sequestrectomy was performed, since when the wound has healed, although with much scarring.

November 12th, 1924. Partial recovery has occurred, the extensors carpi radialis longus and brevis are efficient, while the extensors communis digitorum and longus pollicis are acting feebly.

There is a choice of further operative measures which may be used to perfect the partial recovery of power in the extensor muscles. Firstly, neurolysis of the musculo-spiral nerve; but this is of doubtful value owing to the long area of scarring around it. Secondly, active flexor tendons may be transplanted to reinforce the partially recovered extensors.

Case 4.—*B.H., aged 9 years. Triple lesion of the elbow, affecting musculo-spiral, median and ulnar nerves. All recovering.* (Figs. 1 and 2.)

May 29th, 1923. A severe supracondylar fracture of the humerus defied full reduction. Marked myositis occurred and, in the second week, lesions of the three nerve trunks about the elbow began to develop with the usual resultant deformities. Splintage, etc., were employed.

March, 1924. A trophic sore appeared on the dorsum of the little finger and deepened, despite treatment. A radiogram was taken to see if underlying bone or joint were infected, but in June, 1924, improvement set in and rapid healing. This was a pleasant token of ulnar nerve recovery. By November 12th, 1924, good recovery of the musculo-spiral was present. Restored function was present also in the medio-ulnar territory, but with an obvious and mystifying gap which calls for remark. While the flexors to the wrist and the intrinsic muscles of the hand were now active the intermediate long flexors of fingers and thumb remained withered and inert. Strikingly parallel was the sensory defect, for while wool and pin-point were appreciated by the patient, squeezing of the phalanges was not felt. It is hard to believe that the compressing force could have had a selective action of this destructive kind on the particular fibres of median and ulnar nerves concerned in the non-recovered parts. I am inclined to attribute the

PLATE II.

FIG. 1.

FIG. 2.

FIG. 1.—Case of B.H. Recovering triple nerve lesion of elbow eighteen months after injury.

FIG. 2.—Case of B.H. Skiagram of elbow, eighteen months after injury, showing unequal growth of humeral epiphysis.

PLATE III.

FIG. 3.—Case of M.M. Ulnar palsy of hand four months after injury at elbow.

FIG. 4.—Case of M.M. Shows callus and the notch where it compressed the ulnar nerve.

muscle, and so the deep sensory, implication of the digits to Volkmann's ischemic contracture of the forearm muscles. The latter suffered severe bruising and swelling from the accident and subsequent manipulations. During the maintenance of the acutely flexed position of the elbow for three weeks following they may have been unduly compressed against the front of the upper arm. When the recovering nerve fibres reached the contractured muscles their further growth would be inhibited by a condition of impermeable fibrosis.

Case 5.—*M.M., aged* 10 *years. Ulnar nerve lesion of delayed onset. Recovering.* (Figs. 3 and 4.)

July 11th, 1924. Injury to the lower epiphysis of the right humerus with much bruising. No neural lesion was present. Reduction was satisfactory. On August 3rd, 1924, symptoms of a complete ulnar nerve lesion were found. On October 1st, 1924, recovery was heralded by the appearance of Tinel's sign in the forearm, and on November 12th, 1924, a typical hyperæsthesia to deep pressure and pin-prick with absent epicritic feeling showed sensation was returning.

Unusual interest centres round the radiogram of November, 1924. Just above the elbow-joint the ulnar nerve was to be felt running down behind an unusual bony boss. At a corresponding site in the radiogram is a piece of callus with a notch in it. This, I believe, lodges the ulnar nerve, and so marks the precise level and manner of compression of the nerve. symptoms of which commenced a month after the accident. Recovery is proceeding, and may reach the muscles shortly, so that neurolysis is hardly desirable at this early date.

Subsequent events have shown this course to be the wise one, for on January 25th, 1925, motor recovery was obvious and deformity gone.

Case 6.—*W.D., aged* $3\frac{1}{2}$ *years. Division of ulnar nerve by incised wound above wrist. Delayed operation. Recovering.*

December, 1923. Right forearm cut by broken glass and stitched.

June, 1924. He was sent to me with a complete ulnar lesion and no signs of recovery. Operation revealed a markedly bulbous proximal end of the nerve, which was turned aside and out of contact with the scarred lower end. It was sutured in accordance with the rules already outlined, but sufficient time has not yet elapsed (November, 1924) for one to judge of the result. When seen (January, 1925) it was obviously recovering. Deformity gone and good Faradic response in interossei. This unusually rapid return of function depends doubtless on the tender age of the child.

Case 7.—*V.D., aged 20 years. Incised wound with division of median and ulnar nerves at wrist. Primary suture performed. Recovery commencing.* (Figs. 5 and 6.)

(I was indebted to Mr. Rendle Short for permission to show this case.)

July 5th, 1924. She put her hand through a glass pane, cutting the median and ulnar nerves, together with superficial tendons on the front of the wrist. Immediate suture was performed. November 12th, 1924. A typical hollow palm, concavity of the surfaces of the thenar and hypothenar eminences, main-en-griffe and delicate, pinkish skin were present.

Recovery was ushered in by the development of an unnatural tingling sensation when the centre of the palm was pressed, and by November 12th, 1924, this perverted response alone resulted all over the paralysed area no matter what variety of stimulus (*e.g.* wool, pin-pricks, thermal) was applied. In the affected muscles the galvanic response was still that of degeneration, but the abductor indicis alone was typical among them in giving the A.C.C. with less current than the K.C.C. The case affords fresh light on the action of the lumbrical muscles. The common teaching on the action of these is that they, with the aid of the interossei, flex the metacarpo-phalangeal and extend the interphalangeal joints. Presumably this is based on their anatomical attachments and on the deformity (main-en-griffe) and disability that occurs if they are paralysed. Investigation of this patient leads me to the conclusion that the usual description omits a synergic action which is of paramount importance. Fig. 5 shows the typical main-en-griffe position of the fingers, and from that, although flexion can be performed, no further extension of the fingers is possible, *i.e.* the chief handicap is absent extension and, from current teaching, the inference is that this missing movement is usually carried out by the tiny lumbricals. Fig. 6 brings disillusionment, for it is only necessary to push the bases of the proximal phalanges forward passively and the patient becomes capable of full extension and escapes from the "gryphon's claw." This observation is confirmed in the natural hand as follows. If one flexes the index finger to a right angle at the metacarpo-phalangeal joint and, at the same time, attempts to straighten the last two joints of the finger, one becomes conscious of a sense of effort in the palm and of an unconsummated action. If, holding the one index finger thus, pressure is made firmly with the opposite forefinger on the back of the base of the proximal phalanx, a feeling of release from strain will be found, and extension is simultaneously easily and fully

PLATE IV.

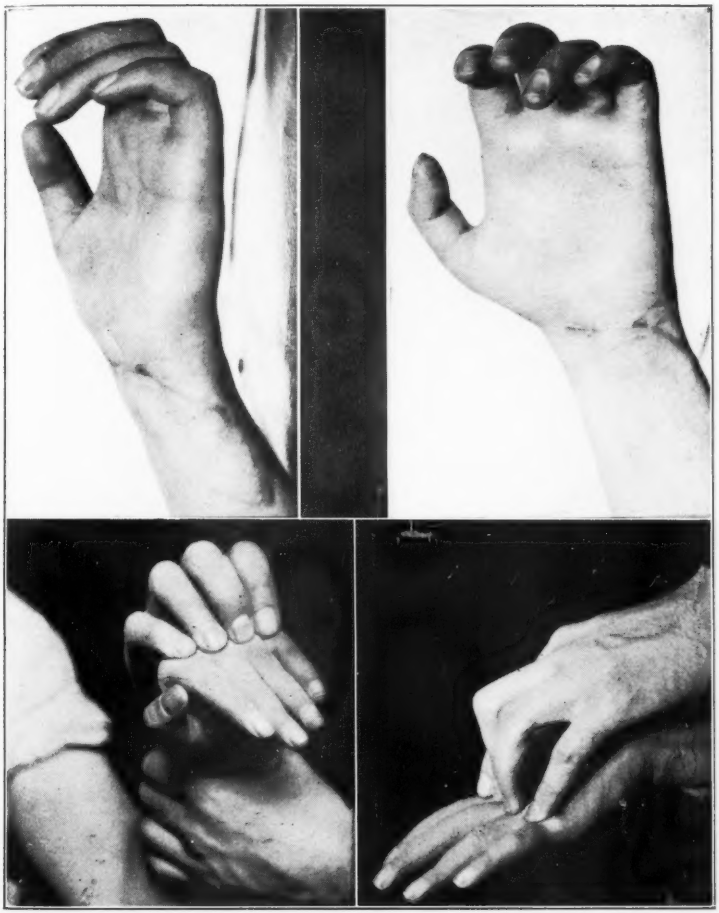

FIG. 5.—Case of V.D. Healed wound of wrist and total medio-ulnar palsy of hand, three months after injury. Shows main-en-griffe and wasting.

FIG. 6.—Case of V.D. Although complete lumbrical palsy, good extension of fingers possible when bases of fingers pressed forwards as in photo.

performed. Thus the extensor tendon is shown to be responsible for extension, but the lumbrical, which is an antagonistic flexor, exerts a synergic action, in that, by pulling forward the first phalanx, it fixes that bone and gives the extensor tendon a fixed fulcrum (the head of the first phalanx) on which to raise and extend the middle phalanx, and only when this *is* fixed can one extend the last phalanx. This seems to indicate that the main action of the lumbricals is neither primarily flexion or extension of the phalanges, but is that of elastic fixer of the first phalanx and so a vital accessory synergic muscle to the extensor communis digitorum. This aspect of the mechanism of the lumbricals seems to merit more attention than it has received in the past, and it is intended to deal more fully with it in a later communication.

Reviews of Books.

Rheumatic Heart Disease. By CAREY F. COOMBS, M.D., F.R.C.P. Lond. With an introductory chapter by F. J. POYNTON, M.D., F.R.C.P. Lond. Pp. xxiii., 376. Bristol: John Wright & Sons, Ltd. 1924. Price 12s. 6d.—This book deals with the cardiac lesions of rheumatism, but the different manifestations, which are usually pigeon-holed into definite named diseases in the current text books, are not unduly stressed; the author shows that these diseases are due to one and the same tissue change, and that the differences are caused by variability of local intensity. Whether rheumatic carditis can be separated from rheumatism is another question, but the separation is justified for the production of a monograph. The ætiology, so far as it is known, is treated carefully, but with reserve. *Streptococci* in general and the *S. rheumaticus* of Poynton and Paine in particular, are regarded as the underlying exciting cause, and this will meet with general agreement. Our lamentable ignorance of this most puzzling group of micro-organisms is noted, and the author points out the promise of labour and reward in the further investigation of this part of the question. The morbid changes in the different parts of the heart are lucidly described and well illustrated by admirable photo-micrographs. The unity of these changes is well demonstrated, and thus goes far to support the main thesis. The chapters on symptomatology, prognosis and treatment will appeal to most readers. This part of the book is of much interest, for the author has not been content to hand on the traditional teaching, but has based his conclusions on the findings of a large number of cases seen and followed carefully by himself for years. This by itself should be sufficient to

ensure a critical reading. In addition proof is afforded that some of the current teaching is fallacious, and therefore dangerous; thus the rarity of much pericardial effusion and the danger of attempting aspiration in rheumatic carditis is an example out of several which will make an appeal to many practitioners. One or two minor points in chapters on prognosis appear to deserve more notice in subsequent editions; the solution of the question of present infection in a given case might receive help from the finding of an alteration of the Arneth index and later a mononucleosis. The prognostic significance of sinus arrhythmia, first pointed out by Sir James Mackenzie, and that of an embryocardial rhythm are not noted. Changes in the pulse pressure, not widely known, are pointed out, but notes on the alterations of the tone phases of the pulse pressure in an individual case might be helpful. The study of the vital capacity or the duration of voluntary apnœa are also of help, but are not noted. Those methods which give a definite figure, or percentage, so dear to the hearts of the younger generation at least, deserve more notice. A slight alteration of a sound, though full of significance to the practised cardiologist, is not appreciated by the general practitioner. Apart from this the prognosis is ably considered and all contingencies are fully discussed. Opinions on the permissibility of marriage, though they may appear to be somewhat heretical, are supported by prolonged observation of cases and are given with duly expressed reserve. The schemes for a fuller investigation of rheumatism, social questions and means for the prevention of the condition are of manifest importance from a national standpoint, and will appeal to most readers. The book is well turned out, convenient to handle and free from technical faults. It is original, well written and of interest throughout. The illustrations are clear and the index is good. It should be of great help to the practitioner, and its appearance just now, when the importance of rheumatism has permeated the thoughts of the laity, is timed to add to its utility.

Pneumonia: its Pathology, Diagnosis, Prognosis, and Treatment. By the late R. MURRAY LESLIE, M.A., B.Sc., M.D. Revised and edited by J. BROWNING ALEXANDER, M.D., M.R.C.P. Pp. xiv., 351. London: William Heinemann. 1924. Price 12s. 6d. net.—Dr. Alexander is to be congratulated on the skill and judgment with which he has accomplished the work taken in hand by the late Dr. Murray Leslie, whose long and wide experience of pulmonary disease qualified him for the production of such a volume as this, that is to say, a comprehensive study of pneumonia with particular attention to the clinical aspect of the disease. The book is a balanced

and critical review of the whole subject, in which both old and new views are brought under consideration. Almost half the pages are devoted to a discussion of the treatment of pneumonia, its varieties and complications. A cautious support is given to the use of vaccines in the earliest days of the disease. There is an interesting account of the researches into the various types of the pneumococcus recently carried out at the Rockefeller Institute, with their bearing on the use of specific sera. It is a pleasant volume to handle, well bound and clearly printed on an attractive paper. The style is easy and the arrangement of chapters and paragraphs well conceived. For these reasons, as well as for its general reliability and comprehensiveness, this book should commend itself to a wide circle of readers.

Anæmia: its Causes and Modern Treatment. By ARTHUR W. FULLER, M.D.Edin. Second Edition. Pp. 138. London: H. K. Lewis & Co. Ltd. 1924. Price 6s.—This book deals with the subject of anæmia, and its treatment, mainly in its clinical aspect. All forms of anæmia, both primary and secondary, are included, and the relationship of anæmia to other diseases, such as neurasthenia, is fully discussed. The best chapters are those devoted to treatment, and the author emphasizes the importance of rest, exercise, air and light, in this condition, and more particularly the treatment by deep subcutaneous injections of iron and arsenic in isotonic serum. The gradual disappearance of chlorosis during recent years has been followed by a lack of attention to the blood condition in many minor conditions of ill-health, and Dr. Fuller's book is a plea for more regular routine laboratory examination of the blood, and for wider and more efficient methods of treatment.

The Diagnosis and Treatment of the Infectious Diseases. By FREDERICK H. THOMSON, M.B., C.M. (Aberdeen), D.P.H. Pp. vi., 208. London: H. K. Lewis & Co. Ltd. 1924. Price 7s. 6d.—This book is intended for practitioners and attempts in two hundred pages to give a complete differential diagnosis and treatment of the thirteen common infectious diseases of this country. The book suffers in places from over-concentration of its contents, as such a volume, to be of value to practitioners for reference, should at least mention the rarer possible alternative diagnoses. For example, no mention is made of such a disease as malaria in the diagnosis of typhoid, a disease which in a sea-faring population is by no means rare and may resemble typhoid very closely. The description of fulminant diphtheria is hardly happy. To describe the soft, painless œdema of the neck which accompanies the disease as "cellulitis" is to convey an entirely wrong impression, for the swelling in diphtheria is due to effusion into the tissues, and is not a true inflammation. The omission of the Weil-Felix

reaction as a serological test of typhus is unexpected. No mention is made under "Small Pox" of the present mild type nor of its peculiar diagnostic difficulties in some cases. In spite of these omissions, the book as a whole shows evidence of the wide personal experience of the author, and can be recommended to those who prefer, when in doubt, to consult a handy reference work rather than a ponderous treatise.

The Nervous Patient. By MILLAIS CULPIN, M.D. (Lond.), F.R.C.S. (Eng). Pp. viii., 305. London: H. K. Lewis & Co. 1924. Price 10s. 6d.—This book is a valuable addition to psychotherapeutic literature. It is essentially practical and intended for the general reader in medicine and surgery. The early part of the book summarises well-established psychological teaching in relation to the development of neuroses of all kinds. The author quickly proceeds to apply these principles to a wide field of medicine, surgery and gynæcology. All these chapters are worthy of close attention. Particularly interesting is the chapter on head injuries. There is one chapter, contributed by Mr. Inman, on ocular symptoms, headaches, squint and nystagmus which will be read with considerable interest both by general practitioners and ophthalmologists. Dr. Stanford Read contributes an interesting chapter on the major psychoses.

Movement in Organic Disease. By ERNEST KINGSCOTE, M.B., C.M. Edin. Pp. xix., 187. London: Baillière, Tindall & Cox. 1923. Price 10s. 6d. net.—The writer of this book, having had exceptional experience in the treatment of chronic affections of the heart and lungs, describes certain methods of treatment by special exercises by means of which he has secured most encouraging results even in cases of serious organic disease. These methods, and the indications for their employment, are described in such a way that any practitioner should be able to put them into practice in suitable cases; and there can be little doubt that cases frequently come under the care of every practitioner in which the application of these teachings would result in a degree of improvement which it would be difficult or impossible to achieve without having recourse to these forms of physical treatment. In the opening chapters the author draws attention to the fundamental importance of "normal breathing," meaning thereby a type of respiratory movement characterised by a greater excursion of the chest at the level of the nipples than at the level of the bases of the lungs. Where this type of breathing is present it proves that the mobility of the ribs and the elasticity of the lungs are fully operative, and that as a result of this the normal negative pressure in the chest, which is of such assistance to the venous circulation, is well maintained. The

converse of this condition is, however, very frequently met with in persons living sedentary lives, and in the majority of sufferers from chronic affections of the lungs and heart. The writer makes it very clear what serious results are likely to follow upon such a condition of affairs and he shows how this condition can be easily recognised. Following this is a short but most important section in which the author describes how these cases of "fixed chest" can be treated by special breathing exercises which he has devised. The photographs reproduced in this section make it quite clear how the exercises should be performed. One of the most striking applications of these exercises is that in which they are applied in the treatment of emphysema. Other conditions in which these exercises in modified form are said to be of value are dilatation and fatty degeneration of the heart and angina pectoris. It is claimed that the results of Nauheim treatment are much more lasting if the "fixed chest" is mobilised by the Kingscote exercises. In conclusion, it may be stated that whilst this book contains a good many pages of somewhat questionable theory, it is well worth careful study for the sake of items of practical value.

Clinical Memoranda for General Practitioners. By ALEX THEODORE BRAND, M.D., C.M., V.D., and JOHN ROBERT KEITH, M.A., M.D., C.M. Second Edition. Pp. xiv., 375. London: Baillière, Tindall & Cox. 1923. Price 7s. 6d.—This is a general practitioner's scrap-book, culled apparently from a careful reading of the journals and supplemented by references to case books. In 350 pages it deals with a great variety of topics in medicine, surgery and obstetrics in a practical but scrappy manner. A busy practitioner will find here many useful "tips," but there is always a danger lest the perusal of books such as this should replace the careful study of more complete and systematic works.

Internal Derangements of the Knee Joint. By A. G. TIMBRELL FISHER, F.R.C.S. (Eng.). Pp. xii., 144. London: H. K. Lewis & Co. Ltd. 1924. Price 12s. 6d.—This book is the outcome of several years of careful and patient research by the author, chiefly at the Royal College of Surgeons, on the subject of the anatomy of internal derangements of the knee. It is introduced by a preface from the pen of Sir Arthur Keith. After a short introductory chapter dealing with the history of the subject, the rest of the matter is divided into a consideration of the semi-lunar cartilages, loose bodies, osteo-arthritis and certain other forms of internal derangement. The section on anatomy and physiology is exceedingly good, and it is very well illustrated. The same commendation

applies to the description of the various lesions to which the semilunar cartilages are liable. In the operative treatment some stress is laid upon the advantages of a special method of exposure, which consists in a lateral displacement of the patella. Whatever the merits of this method may be, we doubt whether it is an original proposal, as an essentially similar method has been described by German orthopedists for some time. The section on loose bodies and also arthritis represent the author's original work on which he recently delivered the Hunterian Lecture. In these, as in all other sections of the book, a great deal of useful fact and suggestive theory is put forward, and the book as a whole is a most useful and practical summary of the matter with which it deals.

Landmarks and Surface Markings of the Human Body. By L. BATHE RAWLING, M.B., B.C. (Cantab.). Sixth Edition. Pp. viii., 97. London: H. K. Lewis & Co. Ltd. Price 7s. 6d. net.—That this small book is firmly established in the estimation of those for whom it is intended is well shown by the fact that this is the sixth edition, and the thirteenth re-issue, in the course of ten years. There are few changes to record in the issue under notice, the text being left much as it was in previous editions. The illustrations are new and clear and generally accurate, although the amount of trachea which appears in the neck looks rather exaggerated in one or two of them. To those who are unacquainted with the book, the new edition may be confidently recommended as a concise and accurate guide to the study of surface anatomy.

The Extra Pharmacopœia of Martindale and Westcott. Eighteenth Edition. In two Volumes. Volume I. Pp. xxxviii., 1,163. London: H. K. Lewis & Co. Ltd. 1924. Price 27s. 6d.—The "Extra Pharmacopœia" of Martindale and Westcott has been so long the necessary companion of medical men and pharmacists that any review of a new edition must necessarily be a review of the new features only. The eighteenth edition is well up to the standard of its predecessors in providing the key to those methods of treatment of the most interest at the moment. The Dangerous Drugs Act, with its multiplicity of detail, is without doubt the cause of the greatest annoyance to both prescribers and dispensers. "Martindale" devotes eighteen pages to a survey of the Act and its amendments, giving explicit information of the procedure to be adopted by doctor, dentist, chemist, and wholesaler, a series of useful tables indicating the amount of the "Dangerous Drugs" in various preparations necessary to bring them under the Act, and a series of typical prescriptions, the perusal of which should effectively reduce the frequency of "referred

back" prescriptions. The increasing use of intravenous injections is responsible for the addition of a table of intravenous doses of the drugs most often prescribed in this way, the table giving the actual dose and also the volume of diluent or solvent suitable in each case. Following the monograph on the pancreas and its preparations is a full account of Insulin, including methods of extraction, technique of injection, and dosage, followed by a very complete list of references to articles in the current literature on insulin. The much advertised class of colloids receives considerable attention, methods of preparation, both chemical and electrical and a detailed account of colloid therapy forming the subject of a lengthy chapter. Under the heading of "Alcohols" will be found mention of the present form of methylated spirit, only introduced in May of this year, and which has already proved a fertile source of trouble when used as a basis of skin lotions. In this connection it is to be noted by prescribers that the authors state authoritatively (p. 129) that "it is *illegal* to dispense *industrial* methylated spirit even on a doctor's prescription, *e.g.* for a cooling skin lotion." A section of about eighty pages is devoted to vaccines and antitoxins, commencing with an account of the theory of immunity and concluding with a survey of sensitised vaccines. A very complete index is provided, without which the utility of a book of this kind is much lessened.

An Introduction to the Histology of Tumours. By HAROLD A. HAIG, M.B., B.S., D.P.H. Pp. vii., 128. London: Henry Kingston. 1924. Price 7s. 6d. net.—The object of this small book of 124 pages is "to aid students and working pathologists in the diagnosis of tumours by the microscope," a formidable and responsible task, requiring greater clarity of exposition and a larger share of the gifts of judicial selection and typical illustration than we find in this book. An introduction plunges the reader into the minutiæ of high-power histology, leaving him too ready to believe that malignancy can be diagnosed from the characters of individual cells. A conventional description of the commoner tumours follows, with a large number of photographs which we cannot highly commend. Working pathologists need more detail, and students demand greater simplicity, than this book affords.

Text-Book of Pathology. By ROBERT MUIR, M.A., M.D., Sc.D., F.R.S. Pp. vii., 774. London: Edward Arnold & Co. 1924. Price 35s.—Professor Muir's book should prove of great value to those who wish to keep abreast with modern pathology, as well as to the medical student for whom it is primarily intended. It deals essentially with the structural changes in disease, but where necessary for a clearer

understanding of the subject the author discusses briefly the results of chemical and experimental research. Systematic bacteriology and diseases of the special senses and of the skin have been omitted, and only the commoner tropical diseases likely to be met with in this country are described. A short account of the more important animal parasites is given, and also of the chief congenital abnormalities. The student will find no difficulty in following the author's description of the various pathological processes, nor will his interest fail to be stimulated by the constant reference to the functional disturbances caused by them. The illustrations are excellent. The book will certainly become one of the most popular student's text-books on the subject.

The Journal of Cancer. No. 1, January, 1924. Dublin: Alex. Thom. & Co. Ltd. Price 2s. 6d. quarterly.—A new Journal professing to be "the only magazine devoted to cancer research," and "designed as a record of the study, experiments and general practice in the treatment of cancer." This, the first number, contains a short and unduly optimistic editorial, several papers on deep X-ray therapy and an article in smaller print entitled "The Cancer Problem," by Dr. W. M. Crofton. There are several misprints in an article by the Editor. The author of the first article on deep X-ray therapy acknowledges his results to be premature. The second and third articles dealing with the same subject are rather alarming. The first describes many contra-indications to, and serious complications of the treatment; the second emphasises the difficulty in finding a safe dosage. Dr. Crofton's article is speculative and discursive as to cancer and surprisingly confident as to its successful treatment by vaccines.

A Manual of Diseases of the Eye. By CHARLES H. MAY, M.D., New York, and CLAUDE WORTH, F.R.C.S., Eng. Fifth Edition. Pp. viii., 460. Baillière, Tindall & Cox. 1924. Price 15s.—The new edition of this work is, like its predecessors, written essentially for the medical student and general practitioner. It has now been brought well up to date. The coloured plates, which have always been such a feature of this book, still retain their excellence, and in themselves constitute a very useful atlas of the diseases of the eye. The chapters on refraction and the ordering of glasses are simply and concisely written, and should enable anyone to obtain a clear insight into this often rather difficult section of ophthalmology. The chapter on ocular therapeutics cannot but be of considerable practical use, giving as it does many useful prescriptions and the various methods of applying them to the eye. Taken as a whole, the book can be confidently recommended to the student

who requires a sound practical but short work on ophthalmology, and to the general practitioner who is in need of a treatise on the subject dealing with those diseases which he is most likely to meet in his daily work.

Clinical and Operative Gynæcology. By J. M. Munro Kerr. Pp. xiv., 832. London: H. Frowde & Hodder & Stoughton. 1922. Price 50s. net.—This book is a very welcome addition to the numerous works on this subject. Its value is enhanced by the fact that the author presents a record of his own clinical experience and an exposition of his own technique. The book is therefore free from what is, in our opinion, a too prevalent fault, namely the inclusion of long accounts taken from other writers of their opinions without giving the data on which those opinions were formed. It is unnecessary to state that those engaged in teaching should be especially careful to avoid this fault, as more than any other it leads to the perpetuation of opinions, the errors of which, and the inaccurate deductions which lead up to them, are liable to be carried forward in an intensified form by uncritical readers. For example the author's experience is that the proportion of cases of salpingitis is not, as often alleged, due in the majority of cases to gonorrheal infection and in the minority to infection following pregnancy, but the reverse. Of his own cases 60 per cent. were due to infection following pregnancy and 40 per cent. to gonorrhœa, which accords with our own experience. The other statement is to the effect that chorio-epithelioma is a common sequela of hydated mole, instead of what is the fact, that in a large proportion of cases of chorio-epithelioma hydatid mole has been a precursor. The relative frequency of the two conditions is sufficient evidence of the untruth of the former statement. The general arrangement of the work is much to be commended, it avoids unnecessary detail, while giving all the information that the clinician will find necessary. The clinical presentation of cases in which difficulties of diagnosis occurred is admirable, and not least so in those cases in which mistakes in diagnosis had been made by the author himself. The chapter on medical as opposed to operative treatment and the author's remarks on the limitations of the latter will be found most interesting and valuable, and may serve as a corrective to those who seem to consider that operative treatment is the one method of dealing with gynæcological affections. The author wisely insists on the correct appreciation of the anatomical facts on which operative procedure should be based, and, in his presentation of biological factors, on the importance of a correct reading of facts furnished by the biochemist and physiologist. The necessity for basing

gynæcological methods on the ancillary pure sciences has been in the past overlooked, chiefly owing to the difficulties inherent in the endeavour to acquire the experience necessary for the practice of the handicraft. Operative technique is dealt with in the last section of the work by means of a comprehensive series of plates with lucid explanations attached. We can strongly recommend this work as a guide to those who, having attained a certain stage of experience in the subject, wish to extend it by comparison with that of others. It is true that many of the present-day procedures and fashions are not dealt with in detail, but those who wish to study a work based on common sense and the application of scientific knowledge will find it not only valuable, but most interesting and easy reading, and a wholesome corrective to some of the *ex cathedrâ* statements found in too many of the other manuals.

Handbook of Skin Diseases. By FREDERICK GARDINER, M.D., B.Sc. Second Edition. Pp. 248. Edinburgh: E. & S. Livingstone. 1924. Price 10s. 6d.—A successful text-book demands subsequent editions. That Gardiner's handbook has met with success is, partly, because in a very small compass and at moderate cost it provides students with some idea of diagnosis and treatment in the commoner diseases of the skin. There are very few dermatological handbooks which a student can carry in his pocket and have ready for reference in the out-patient room. In the present issue additions have been made to the letterpress, and coloured plates have been added, which have improved the book; the paper also permits of better reproduction of the photographs, but it is to be hoped that in subsequent editions no further increase in bulk will occur, or the usefulness as a pocket handbook will largely be lost. The price also has increased from 6s. to 10s. 6d., which is of moment to students. There are important omissions and careless mistakes in the wording, but the book serves a useful purpose, and can be recommended to students till they can afford a larger and more complete text-book.

Handbook of Sanitary Law. By B. BURNETT HAM, M.D., D.P.H. Edited by HENRY R. KENWOOD, C.M.G., M.B., F.R.S. (Edin.), D.P.H. Ninth Edition. London: H. K. Lewis & Co. Ltd. 1923. Price 5s. net.—This little book presents in a convenient form extracts from all the Acts dealing with Sanitary Law which require memorisation by the D.P.H. student. The ninth edition brings the subject matter up to date by the addition of all recent enactments. It will doubtless retain its popularity with students as the best book from which to absorb its arid subject.

Editorial Notes.

Proposed Open-Air Hospital School for Crippled Children.

In our issue of July last we drew attention to the value of an open-air hospital school as opposed to existing methods in the treatment of the large group of abnormal or diseased conditions in children comprised in the term Orthopædics, and to the highly successful development of these methods at Zuydcoote.

The initiation of a generously conceived hospital school of this description in our midst, the project of the Bristol Crippled Children's Society, is already well launched and supported by many of our representative citizens and colleagues and has our most cordial sympathy.

Several other large towns already possess a hospital school such as Bristol cannot and will not remain long without. It requires no effort of imagination to realise that, for instance, tuberculous disease of the limbs involves prolonged treatment by open-air methods, and that operative methods when needful should be conducted under the favourable environment of the open-air life. Furthermore, a strong case has been made out for placing early rheumatic heart disease in children under similar open-air school hospital conditions, when rest, education and supervised exercises must be carried out for such prolonged periods. To sacrifice the child's chance of education and training by months spent in hospital wards is a woefully costly method that can only be avoided by combining educational facilities with the resources of a special hospital.

The proposal for which support is now invited is on a modest scale, and represents the irreducible minimum of Bristol's requirements; but it will suffice to demonstrate that this open-air hospital school is conceived on sound

lines, and an immense advance on anything that Bristol has hitherto been doing for these suffering children.

In and around the site there should be ample room for expansion in connection with this new institution, so that it may be capable of providing for Bristol, Bath and the Counties of Gloucester, Somerset and Wiltshire, since it is impossible with several separate small hospital schools to afford the complete equipment which involves not only the most skilful consulting expert surgical service, but also the resident surgeons, trained nursing staff, X-ray apparatus, and, of course, the resources for operative treatment, remedial exercises, and so forth. Hence the further development of this hospital school is inevitable in due time; for ere long it will have to serve a much wider area than Bristol and its immediate neighbourhood, because the larger the hospital school and the greater the number of children under treatment in one well-organised school the greater the economy.

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Changes in the Editorial Committee.

THE Editor and the *Journal* Committee greatly regret that Dr. James Swain, Emeritus Professor of Surgery, has resigned his position on the Editorial Committee, after serving from 1899 to the end of 1924. During more than a quarter of a century he has not only contributed a large number of valuable original articles on surgical matters, but has earned the grateful thanks of the Society for his devoted service in connection with the editing and production of our *Journal*. We wish him many years of happiness in his new home near-by in Somerset.

Mr. E. W. Hey-Groves, F.R.C.S., Professor of Surgery in the University of Bristol, has joined our Editorial Committee, and his wide experience as Editor of the *Journal of Surgery* will be most helpful in our work.

A Crematorium for Bristol.

It is proposed to erect a crematorium in our district. Such facilities should certainly be available in this neighbourhood for those who desire that their remains should be cremated instead of being debarred, as very often is the case, by the hitherto unavoidable heavy expense and trouble entailed by cremation at Woking. Much may be urged for clinging to the beautiful ceremony of interment, but it is unseemly and selfish to obstruct the reasonable desire of those who feel cremation has advantages in both practical and sentimental aspects. Whether the new crematorium be under private or municipal control is outside our concern, but the provision of a well-equipped crematorium is long over-due.

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

The Annual Meeting of the Society was held in the Physiological Lecture Theatre of the University on October 8th, 1924, the President and seventy-three members and visitors being present. Drs. G. A. G. Gee and T. C. Brentnall were elected members.

The President, Mr. J. L. Firth, in resigning the chair to the in-coming President, Dr. J. O. Symes, alluded to the loss the Society had sustained during the past year by the death of Dr. L. M. Griffiths, late Honorary Medical Librarian and Assistant Editor of the *Journal*, Mr. R. G. P. Lansdown, late President, Mr. Forbes Fraser, C.B.E., and Mr. Farr, librarian of the Society's library. He mentioned that a fund had been started for the assistance of the widow and children of the latter, which he commended to the notice of members.

A vote of thanks was passed to Mr. J. L. Firth for his services to the Society during his year of office.

The in-coming President then took the chair and delivered his inaugural address. (See page 1.)

The Honorary Secretary presented his report and balance sheet, and read a letter from the Vice-Chancellor of the University accepting the Library of the Society, and expressing the thanks of the Council of the University for this gift. Mr. S. V. Stock was then re-elected Honorary Secretary for the ensuing year.

The Editorial Secretary, Dr. A. L. Flemming, read his annual report and balance sheet. A vote of thanks was passed, and he was re-elected.

Mr. T. C. Carwardine was chosen President-elect.

The following members were elected members of the Committee :—

Past Presidents.—Mr. F. Lace, Dr. J. A. Nixon, C.M.G.

Members.—Dr. D. C. Rayner, Mr. C. F. Walters, Professor E. W. H. Groves, Mr. A. J. M. Wright, Dr. H. L. Ormerod, Dr. W. V. Wood, M.C.

Dr. C. K. Rudge was re-elected Honorary Medical Librarian.

Drs. G. Parker and W. A. Smith were elected representatives of the Society on the University Library Committee.

November 12th, 1924.

J. ODERY SYMES, M.D., President, in the Chair.

MR. WILFRID ADAMS showed cases illustrating **"Surgical Nerve Lesions in Children."** (See p. 32.)

MR. RICHARD WARREN read a paper on **"Appendicitis Causing Intestinal Obstruction."** (See p. 23.)

December 10th, 1924.

J. ODERY SYMES, M.D., President, in the Chair.

DR. C. E. K. HERAPATH and MR. C. F. WALTERS showed a case of **"Acholuric Jaundice."**

The patient, a male aged 38, had suffered from jaundice for eleven years, with progressive pallor; during four attacks of more severe jaundice there was pain and vomiting. The liver was moderately enlarged, the spleen very much enlarged. Examination of the blood showed R.B.C. 2,400,000, hæmoglobin 27 per cent., W.B.C. 6,400, polychromatophilia, anisocytosis, Wassermann negative, serum contained 15 units of bilirubin. The urine contained much urobilin, no bilirubin. The stools contained bile. Tests (lævulose) showed a deficient

liver function. A diagnosis was made of hæmolytic jaundice, and Widal's differential test indicated the acquired type. The spleen was removed by Mr. C. F. Walters. It weighed 1,200 gm. Nine days after the operation the blood showed R.B.C. 3,960,000, hæmoglobin 70 per cent., W.B.C. 29,000, normal cell appearance. Dr. HERAPATH referred to the present conception of the pathogenesis. Two factors were concerned: (1) increased fragility of the corpuscles; (2) presence of abnormal agglutinins. (A full account of the case will appear in the *British Medical Journal*.) Mr. C. F. WALTERS described the steps of the operation. Slight cases did not require surgical treatment; but in all severe cases this was necessary. The operation should be carried out during the intervals between crises; the dangers were small, and the results good. The PRESIDENT asked whether this was true acholuric jaundice. The fragility of the corpuscles did not seem typically great. He remarked that four points needed care at operation: (1) Separate operation to remove gallstones, (2) the spleen must be movable, (3) the operation must be rapidly completed, (4) vessels must be tied close to the spleen. Mr. A. R. SHORT said he had seen one case of each type: (*a*) Congenital in a child, which did not need operation; (*b*) acquired, in a woman of 40. He removed numerous bilirubin gallstones; but trouble continuing, he removed the spleen; the patient died. He referred to experimental work at the Mayo clinic, in which it had been shown that after removal of the liver jaundice occurred (from the action of the spleen). Dr. V. M. COATES, M.C., said he had seen several cases of acquired jaundice of this type. He asked what experience Dr. Herapath had had of liver efficiency tests (*e.g.* Widal's, glycuronic, etc.) other than that described (Van den Berg's lævulose test). Dr. KENNEDY had seen one case occurring after concussion. Was there a connection between this and pernicious anæmia which sometimes followed head injuries? Possibly the hæmolytic cells in the liver and spleen were under nervous control. Dr. HERAPATH, in reply, said that he considered the two types to be one disease. In the case shown the fragility of the corpuscles was definite though not marked, and not altered by operation. The lævulose test was the only one he had used. He did not think the brain influenced the activity of the reticular cells of the spleen.

DR. C. E. K. HERAPATH showed a case of **"Bronchiectasis in a child of six."** This girl had had an abdominal operation, followed by pneumonia. Signs pointed to a cavity in the left base; but when the question of surgical treatment was raised a cavity was also found in the right lung. Mr. C. F. WALTERS said that he did not propose to operate in this case. He

reviewed the developments in the surgery of the condition. (1) Incision, offered no prospect; (2) thoracoplasty, offered no prospect; (3) treatment via the bronchoscope was an improvement; (4) removal of a lobe of the lung had a mortality of 50 per cent.; (5) the latter procedure as a two-stage operation had been tried once with success; (6) the best method so far seemed the cautery after "exteriorisation," eleven cases reported, with one death. Mr. A. J. WRIGHT considered that bronchoscopy might be useful. It was not a very difficult or dangerous method. Dr. D. A. ALEXANDER advised the use of creosote baths, of which he had had favourable experience.

MR. A. J. WRIGHT read a paper on **"Carcinoma of the Œsophagus (including the deep pharynx)."**

Mr. Wright reviewed the incidence of œsophageal cancer. It was usually seen in males after middle life, and affected the upper and lower parts of the tube equally. In women, and almost exclusively in women, postcricoid carcinoma was found, and occurred on the average somewhat earlier than the types affecting the other sex.

Ætiology.—He directed attention to the causes thought to influence carcinoma of the tongue, an analogous part; very little was actually known of the predisposing factors in the œsophagus. (1) Syphilis appeared to be very rare in the latter region. (2) Trauma was occasionally associated with a subsequent growth; especially the trauma of hot liquids had been suggested as a reason for the incidence of postcricoid growths in women. (3) Sepsis may be a factor, as for example that associated with pyorrhœa.

Symptoms.—The only symptom of importance was difficulty in swallowing. This may appear with startling suddenness. It is *not* a sign of aneurysm, which in the speaker's experience never gave rise to real difficulty in swallowing. Cough was common in postcricoid growths. Coughing up of food occurred when an œsophageal-tracheo fistula had formed; this condition seemed compatible with life for at least some months.

Diagnosis.—Laryngoscopy might assist, especially in cases of postcricoid growth. Skiagraphy was of great value; the findings were difficult to interpret when the obstruction was high. Œsophagoscopy would usually clinch the question.

Treatment.—Operation held little hope of success. Of 70 cases collected he had found 65 resulted in death. Radium applications appeared to afford some hope, and usually improved the condition for a time, though the dilatation might be in part responsible for this. The position was unfavourable for deep X-rays, of which he had no experience. As palliatives the

introduction of a tube seemed the best. Dilatation alone helped only for a short time. Various types of tube were employed; he thought Souttar's tube would be found the best. He had in three cases used diathermy, with gratifying results. Finally he must mention gastrostomy; this was not a satisfactory operation in the hospital type of patient.

Mr. Wright demonstrated specimens of different types of tube for intubation, and also his own electrode for diathermic applications.

The PRESIDENT had observed the frequent occurrence of cases of carcinoma of the œsophagus with a very long history of dysphagia. As to treatment, he had had a good result in one case after using radium, relief lasting twelve months. Mr. J. P. I. HARTY had also seen several cases with a long history of some difficulty in swallowing. And these were not all retrocricoid growths. He agreed that X-rays did not much assist the diagnosis in retrocricoid growths. Of the latter, his experience of operation was that it was not a good method of treatment. He asked what amperage Mr. Wright used for diathermy, and for how long the current was applied. He had had one case in which he had used Souttar's tube; the result was not good, the tube being returned. He advised intubation especially for strictures which were firm, not for the fungating type. Dr. C. E. K. HERAPATH was interested in the suggestion that drinking tea might be a factor in producing postcricoid cancer. What was the effect of drinking whisky? He had never seen a case of aneurysm produce dysphagia. Mr. C. F. WALTERS thought the main benefit of radium was due to the dilatation. As for gastrostomy, he found that at least in private practice this measure was often very helpful. Mr. A. R. SHORT had had three cases for which he had used Souttar's tubes with encouraging results. He was very reluctant to advise a gastrostomy. Mr. LACY FIRTH thought that Trotter's operation was a good one for postcricoid growths. He considered that for the majority of cases gastrostomy was the best palliative. Mr. E. WATSON-WILLIAMS said apropos of "cures" following the use of radium, that Dr. Guisez's experience was that the commonest type of growth was a basal cell carcinoma; he wondered whether this was the experience also of others. Dr. C. CORFIELD mentioned, in reference to ætiology, that in China, where the men eat before the women and get their food hotter, cancer of the œsophagus was more common in men. In reply, Mr. WRIGHT said that there were cases in which a long history of dysphagia was probably due to a congenital narrowing of the pharynx, He had not considered operations on the postcricoid region

as included in the subject. He had no rule as to the amperage he employed in the œsophagus nor as to length of application.

January 14th, 1925.

J. ODERY SYMES, M.D., President, in the Chair.

Mr. C. F. WALTERS showed four cases of surgical interest:

1. Compound fracture and dislocation of the astragalus; conservative treatment had saved a useful foot.

2. Diverticulitis of the colon, with skiagrams.

3. Actinomycosis of the abdominal wall, appearing one year after removal of appendix; treated with iodine internally.

4. Specimens of primary carcinoma of the small intestine.

In opening a discussion on "Encephalitis Lethargica," Dr. EDGEWORTH said that, from figures supplied to him from Dr. D. S. Davies, the M.O.H., it appeared, that in the five years 1919–1923 151 cases of lethargic encephalitis had been notified in the City and County of Bristol. Of these 13 could not be traced. Of the remainder, 138 cases, 68 had died and 70 had recovered more or less completely, a mortality of 49 per cent. Of the 70 cases recovering 26 had recovered completely, whilst 44 presented residual phenomena. The figures for 1924 showed great changes; 158 cases had been reported, of which 27 had died. The disease had become more widespread, but with a far less mortality—17 per cent. The causes of this difference in the mortality might be due, in fact, to a better acquaintance by doctors with the clinical features of the disease, but possibly it was due to a diminished virulence of the infecting organism. It had yet to be determined whether this diminished mortality is associated with a diminished incidence of residual phenomena. Dr. Edgeworth then gave a sketch of the chief phenomena of the disease. He pointed out that whereas it was known that the Parkinsonian syndrome might arise after an interval of health, (citing a case where the interval was two and a half years), it was not known whether other residual phenomena might similarly arise. Dr. D. S. DAVIES said that Bristol showed no difference from the rest of England as regards incidence and mortality. The disease was most frequent in April, and tended to occur in densely-populated areas. Dr. C. F. COOMBS mentioned a prodromal period of "neuritic" pains seen in some cases, and suggested that it might eventually be possible to administer abortive treatment. He mentioned one accident on lumbar puncture, as a warning not to remove fluid too rapidly. Dr. H. H. CARLETON described the diplopia as one for distant objects only. The lethargy might recur for periods of months after apparent recovery. He also had

noted the period of pains just mentioned. For treatment he had formed a favourable opinion of mercury, but did not think hyoscine of value. Dr. R. A. ASKINS (Deputy M.O.H.) spoke of the absence of evidence of contagion. Late mental impairment among the cases that survived seemed common. Mr. E. R. CHAMBERS confirmed Dr. Carleton's observation as to the character of the diplopia. No one muscle was concerned; he thought it due to a paralysis of divergence. Dr. JOHN WALLACE (M.O.H., Weston-super-Mare) pointed out that figures of incidence for such a community, where many people were sent to recuperate from illness, might be misleading; some developed the disease while visiting the town. Sudden vomiting might be the first symptom. Colonel A. E. J. LISTER pointed out that cases in which optic neuritis occurred were not very rare. Dr. R. G. GORDON said that a common type in children showed lethargy only from early morning till noon; from then till evening the patients were normal, and through the night very restless. He mentioned that cases had occurred among miners where long after apparent recovery there was a persistent lack of initiative. In children a frequent feature of the residual phenomena was loss of moral control. Myoclonus, like the Parkinsonian syndrome, might recur after a long period of apparent recovery. He found hyoscine useful for sufferers from myoclonus, if given in large doses. The PRESIDENT (Dr. J. O. Symes) analysed the late results in 33 cases. 11 were dead; 2 were well; 10 at work, but suffering from tremors, spasms, etc.—such might come on even after three years from "recovery"; and 10 were showing definite psychoses of varying degree.

Obituary.

LEMUEL MATTHEWS GRIFFITHS, M.R.C.S., L.R.C.P.

WHEN we think of Lemuel Matthews Griffiths, whose death on September 22nd, 1924, at the ripe age of 79 we all deplore, we may well recall the remark which Samuel Johnson once made with regard to another eminent character closely associated with our city: "If a man were to go by chance at the same time as Burke under a shed, to shun a shower, he would say, 'This is an extraordinary man.'" But it was only those who were brought into close contact with him who could fathom the workings of his mind and recognise the latent powers of an unique personality, a feeling admirably expressed by the motto from one of the sonnets of his great

earthly master, Shakspere, which accompanied a wreath of bay leaves placed on his coffin :

" Who is it that says most ? Which can say more,
Than this rich praise, that you alone are you ? "

It would take more than a mere obituary notice to dwell on the many-sidedness of the man and on his abounding energy, his perseverance and the immense amount of work which he quietly accomplished, many of the fruits of which we as a Society have fully reaped and which have influenced the lives of many others. Not only a busy medical practitioner of the old school, whose skill was highly appreciated, he was a trusty family friend whose advice was always valued and in whom confidence was never misplaced. It has been well said that, after all, the most living of the gifts of Greek medicine to our time is its ethical element, and no one acted up to the spirit of the oath of the great father of medicine better than L. M. Griffiths.

To appreciate his other numerous activities it is necessary to give a brief sketch of his life. Born in 1845, he lost both his parents in early childhood. His school days were passed in Somerset Street, Kingsdown, under Mr. Vines, a well-known schoolmaster of the time, and he received his medical training at the Bristol Medical School. He took his M.R.C.S. Eng. in 1867 and L.R.C.P. Edin. in 1868, and at once went into general practice in the Hotwells. He held various medical appointments, viz. Medical Examiner and School Medical Officer of Mentally Defective Children under the Bristol Education Committee, Consulting Surgeon to the Clifton Dispensary and Medical Officer to Lady Haberfield's Alms Houses.

From 1890–93 he was Hon. Librarian to the Library of the Bristol Medico-Chirurgical Society and from 1893–1902 to the Bristol Medical Library, and for many years Assistant Editor of the *Bristol Medico-Chirurgical Journal*. In 1887 he was elected President of the Society. He was a born librarian, and anything in the shape of a book appealed to him, and his connection with the Medical Library was the happy means of conferring the greatest boon on the practitioners of Bristol and its neighbourhood ; for it was mainly due to his efforts that the splendid collection of books, which has lately been handed over to the University, was got together. Whenever any one of our profession, who remembers the debt owed to him, enters their handsome new quarters " Si monumentum requiris, circumspice " will involuntarily come to his lips. The Medico-Chirurgical Society elected him an Honorary Member, the highest recognition of his great services that it was in their power to confer.

Mr. Griffiths's interest in anything relating to the medical history of Bristol was shown by his valuable contributions to the *Bristol Medico-Chirurgical Journal*, which includes papers on "The Reputation of the Hotwells as a Health Resort," "The Bristol Medical Reading Society" and "The Bristol Medical Library," while in the *Library Association Record* he published a paper "On some things of general interest in the Bristol Medical Library." He also supplied from time to time valuable notes on Medical Philology to the *Journal*. These he published separately in a small volume in 1905.

In 1887 he contributed an interesting article on "Shakspere and the Medical Sciences." This leads one naturally to refer to his life-long study of Shakspere and his times. In 1889 he published his *Evenings with Shakspere*, a most useful and carefully prepared volume, which has proved of invaluable service to Shakspere Societies in various parts of the world, and on which the Clifton Shakspere Society, of which he was the founder and first Secretary and Librarian, was modelled. By his indefatigable industry and perseverance, and by getting into touch with many eminent Shaksperians and securing their interest, he placed it on a firm basis and collected for it a most useful library, and it is now flourishing in the year of its jubilee.

His private library was one of the largest in Bristol, and included works on the most miscellaneous subjects, being especially rich in maps and books relating to the city; but, after all, his chief love was for Shakspere and Elizabethan literature generally, the term being used in the widest sense—every room in his house, including his bathroom, was full of books, and even the tables, sofas and chairs were piled with them, but the most sacred room of all was one entirely devoted to the great poet and his age. Mottoes from his works adorned the vacant spaces on the walls, and it was here that he loved to spend his evenings and entertain his friends.

It has been well said that one of the subsidiary sorrows of a scholar's death is the dispersal of his books, but in this case the regret is mitigated by the thought that so many of Mr. Griffiths's private friends and public institutions, including the Bristol University, Central Library and Art Gallery, as well as the British Museum and Birmingham Shakspere Library, have benefited by his thoughtful care. One of his chief hobbies was the collection of magazine articles on various subjects and having them bound and indexed in many volumes, and it was one of his greatest pleasures to send from time to time to many of his friends rolls of cuttings, carefully selecting only those which he thought would especially interest them.

For many years, up to shortly before the time of his death, Mr. Griffiths spent his leisure moments on what he regarded

as his "opus magnum," which was no less than the illustration of *The Dictionary of National Biography* by portraits of as many of the characters included in it as he could find. He managed to get together thousands of them from all sorts of sources, which he carefully placed in a huge folio which he has bequeathed to the National Portrait Gallery.

Amid all his labours of a professional and literary character he found time to devote himself to much social and religious work. A devoted son of the Church of England, and conscious of ever being in his great Task-Master's eye, he spent an immense amount of time in what he probably regarded as intrinsically of far more value. For many years he took a keen and practical interest in Holy Trinity Church, Hotwells, founding the Sunday School for Men and becoming the intimate friend of the late Canon Wallace. He paid frequent and regular visits to the Clergy Daughters' School and the Gordon Home for Blind Women and read and talked to the inmates. He was closely associated with the Cathedral Branch of the Church of England Men's Society, and among the poor and outcast of St. Jude's he laboured incessantly. No figure was more familiar than his in the common lodging houses of the city, and he had a wonderful power of getting hold of the men and influencing them for good. In order to place himself more in touch with them he instituted an entertainment on one evening a month during the winter. Nor did he forget the women. A devoted band of ladies undertook to meet them once a week to help them in various ways. Every Sunday evening for many years he held a service for men in Wade Street, and gathered round him many of these derelicts and took an interest in their lives. But perhaps his most useful work was in establishing the Men's Night School. Hundreds of men, many of whom could neither read nor write, attended at one time or another the evening classes, which met weekly during the winter months; and in the summer he invited them to tea and amusements in his garden. He had a wonderful way of attracting helpers around him, encouraging them with his high ideals and making them all feel happy and enthusiastic in their work. His memory is still cherished by many a poor working man, and the feeling which he inspired among all his friends cannot be better expressed than by the lines of the great dramatist:—

> "The dearest friend to me, the kindest man,
> The best conditioned and unwearied spirit
> In doing courtesies."

ROBERT H. NORGATE, M.R.C.S., L.R.C.P.

THE death of Robert H. Norgate, which occurred at Southmead Hospital on December 10th, has removed a striking personality from our midst. He was born at Shirehampton in 1865, the family removing a little later to Bristol, where he received his earlier education at the Grammar School.

In course of time he joined the Bristol Medical School, doing most of his clinical work at the Royal Infirmary, and obtaining the diplomas of M.R.C.S., L.R.C.P. in 1891.

For a short time he was engaged in private practice, and was Medical Officer to the Bristol Foresters for two years. He also acted as assistant medical officer in mental hospitals at Worcester and Maidstone, at which institutions he laid the foundation of his wide knowledge of psychiatry, which proved of great value to him in later years.

The greater part of his professional life was given to the service of the Bristol Board of Guardians, first at the Stapleton and Eastville Institutions, and more recently at Southmead Hospital, where he was Medical Superintendent at the time of his decease.

The period of his public service extended over nearly thirty years, during which he displayed unceasing zeal in the execution of his many duties.

It has been truly said that the real success of a man's life is not measured by the honours that he obtains for himself but by what he does for others, and therefore Robert Norgate will rank for all time as one of Bristol's most valued men. Throughout his professional career he invariably took a friendly interest in each individual coming under his care; he was not only acquainted with the medical histories of his patients—often extending over long periods—but he also spared no pains to gain information about their personal interests, and was thus able to give them helpful advice in times of trouble; this striking characteristic was exhibited up to the very end, for within a few hours of his death he was inquiring after certain of the patients in hospital. It was this happy gift which endeared him to the thousands of people who came in contact with him during his work.

Robert Norgate was also greatly esteemed by all those who were associated with him at Southmead; his medical colleagues had a very high opinion of his clinical acumen, and the nurses greatly appreciated his lectures, which were notable for their clearness.

An idea is prevalent among a certain section of the community that research can only be carried out by those who devote their whole time to laboratory work. Norgate proved the fallacy

of such an idea, and did much to show that clinical research is at least as useful as that done in the laboratory. One of his most important observations was on the use of pituitrin in the control of certain types of hemorrhage and in the alleviation of distress in malignant disease; he also did excellent work on the value of injections of sterilised olive oil in selected cases of arthritis and in trigeminal neuralgia. The chief object of all his investigations was to relieve suffering, and not to build up fame for himself.

Keenly interested in all forms of sport, especially Rugby football, the familiar figure of Robert Norgate will be sadly missed at matches, where he was a frequent spectator long after he ceased to play himself; he was also passionately fond of anything connected with shipping, and spent much of his leisure time in making water-colour paintings of ships.

The death of such an excellent clinician is a great loss to the medical profession, but a far greater loss to the large army of unfortunate individuals who have experienced more sorrow than joy in their journey through life.

His widow and daughter are left to mourn his loss, but will be comforted by the knowledge that the results of his labours will remain with us always.

CECIL CLARKE, M.D., B.S., M.R.C.P. Lond.

Cecil Clarke was born in Bristol in 1885, the son of Mr. Leslie M. Clarke. After an education at the Warminster Grammar School he joined the Bristol Medical School. His clinical appointments were done at the General Hospital. There he gained the Henry Marshall Prize, the Clarke Surgical Scholarship, and the Martyn Memorial Scholarship in 1908, and the Sanders Scholarship in 1909. In 1908 he became qualified, receiving both the M.B., B.S. degrees of the University of London and the diploma of the Conjoint Board. In 1908 he was appointed Assistant House Physician and in 1909 House Surgeon to the Hospital. After these, and a voyage to the Far East and back, he went to the Brompton Hospital, where he was successively Assistant Resident Medical Officer, House Physician, and Assistant in the Pathological Department; this last after an illness—acute pleurisy following a skating accident and a long drive in wet clothes—which was the first experience of the broken health which was destined to trouble him for the rest of his life. His next step, after a short rest, was to return to London for postgraduate work at University College (where he gained much from the teaching of Sir John Rose

Sincerely Yours.
Cecil Clarke

Bradford) and at the London Hospital. Then he joined a British Red Cross Unit which served with the Bulgarian Army in the Second Balkan War, a service of hardship, exposure and privation, in which he so distinguished himself as to gain several British and Bulgarian decorations.

After taking his M.R.C.P. Lond. in 1913 he went to Germany, first to Berlin and later to Dresden, where he spent a long time in the Pathological Department under Professor Schmorl. Thence he went on to Vienna, where he had been but a few days when war broke out. He went back to Dresden at once, and was interned there for several months. His knowledge of German enabled him to escape, though he was nearly caught. As soon as he got home, without leaving London, indeed, he volunteered for overseas service, and after a short interval received a lieutenant's commission in the R.A.M.C., but was sent to a laboratory in Belgium, where he did excellent work in the typhoid fever endemic among the civil population, and was of great value in helping to turn this danger aside from the armies in the field. It was at this time that he was selected for professional service to a certain exalted personage, an incident of which he was proud, though he never spoke of it till after the war, and then only to one or two people. Thence he was transferred to Salonika, where he worked with Professor Dudgeon, carrying out some valuable researches into the morbid histology of malaria that was subsequently published (see list of papers). In Macedonia he became infected with dysentery, but with characteristic grit he stuck to his job till 1917, when he was invalided home. He used his sick leave to get some of his research work written up for publication, and as soon as he was fit he went abroad again, back to France, first with a C.C.S., and subsequently with a Battalion of the Sherwood Foresters at his own request. At the Armistice he was recalled for bacteriological work at an officers' hospital in Llangammarch Wells, and in 1919, on demobilisation, he came back to Bristol to take up the Medical Registrarship at the General Hospital. He also acted as Pathologist to the Hospital in an interregnum, and was next year appointed Assistant Physician. He was also appointed Physician to the Queen Victoria Jubilee Convalescent Home.

In 1922 his health was so poor that he went into a sanatorium at Ipswich, and in that same year his appendix, the site of a chronic abscess, was removed at Guy's Hospital. This, he hoped, would get rid of the cause of his ill-health, but it was soon clear that the old lung infection was progressing, though very slowly. Doubtless it had been lit up by the dysentery which he acquired in Macedonia. However, he put up a most courageous fight, in which he could never be got

to admit defeat; indeed, only a few weeks before his death he was talking of the work he would do when he came back to the Hospital. At the end of 1924 he went to Switzerland for treatment, but became worse, and died three weeks later, on the last Sunday of the year, at Montana.

In October, 1919, he married Miss Nora Martin, who nursed him with untiring devotion throughout his long illness.

A memorial service held at St. Paul's Church, Clifton, on January 2nd, 1925, was attended by many of his colleagues, who will always hold their memory of Clarke in affectionate esteem.

This record of a short but crowded life gives but a bare idea of the indomitable spirit of the man, a heroic spirit which made the most of those high qualities inherent in him even in the teeth of such a succession of illnesses as we have recorded. We add two high appreciations from intimate friends who worked with him. One (a member of a London hospital staff) says: "He was a good fellow, and to my mind exceptionally able and possessed of a first-rate critical faculty. I learned to admire his character in France, where, in his unassuming way, his laboratory work was only rivalled by his courage in insisting on serving with a Battalion, when his poor health and special attainments would have secured for him important laboratory work. On the eve of an attack near Ypres the poor fellow developed a painful ischio-rectal abscess; but rather than leave the line, he got his corporal to open it with a penknife in the trench. The same courage carried him through these last few years with little or no lament, but I know how disappointed he continually was at being kept from the work he loved."

Another, speaking of his work in Bristol after the war, says: "He was a purist in his use of English. Redundancy, slipshod grammar, vague expression, gave him almost physical pain. He was widely read in the English classics, and intimately acquainted with scientific German and French. He was a keen but just critic with an uncanny gift for fastening on the truth and rejecting what was unproven or unsound. To these gifts he had added an exceptionally wide experience of pathology and medicine, and in his neat, well-ordered mind had evolved a clear and comprehensive view of the work to which he hoped to devote his energies. To him pathology was always the foundation of medicine; medicine without pathology was unsound, and pathology without medicine fruitless."

Had he lived, Clarke would doubtless have achieved fame both for himself and for his School. His zest for work and

passion for truth must have won for his natural gifts some notable triumph in the struggle against disease. Yet it may be doubted whether, even so, he could have achieved any triumph so splendid as that assertion of the supremacy of the spirit over the body of which his life was so brilliant an example. In support of this contention may be read an article by Clarke himself on his experiences as a patient in *The Stethoscope* for October, 1922. His other published papers were :—

"Report on a Series of Relapses in an Epidemic of Enteric Fever," *J. Roy. Army Med. Corps*, 1915.

"Search for Typhoid Carriers among 800 Convalescents" (jointly), *Lancet*, 1916.

"Cultivation of the Malarial Parasite" (jointly), *Ibid.*, 1917.

"Investigation on Fatal Cases of Pernicious Malaria caused by Plasmodium Falciparum in Macedonia" (jointly), *Quar. J. Med.*, 1919.

"Congenital Disease of Pancreas with Infantilism" (jointly), *Ibid.*, 1924.

"Renal Efficiency," *Bristol M.-Chir. J.*, 1922.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in October, 1924.

January, 1925.

American College of Physicians (1)	1 volume.
British Medical Association (2)	1 ,,
Carnegie Institution of Washington (3) ..	4 volumes.
Delegates of the Clarendon Press (4)	1 volume.
Dr. David Hooper (5)	2 volumes.
London School of Tropical Medicine (6) ..	1 volume.
Medical Research Council (7)	1 ,,
Dr. G. Parker (8)	1 ,,
Rockefeller Foundation (9)	1 ,,
Dr. Serge Voronoff (10)	1 ,,

Unbound periodicals have been received from Dr. Carey Coombs and Mr. Hey Groves.

THE ONE HUNDRED AND ELEVENTH LIST OF BOOKS.

The figures in round brackets refer to the figures after the names of the donors. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

Benedict, F. G., & Ritzman, E. G. *Undernutrition in Steers* (3) 1923
Cameron, S. J. .. *A Glasgow Manual of Obstetrics* 1924
Coombs, Carey F. *Rheumatic Heart Disease* 1924
Clarke, E. .. .. *Refraction of the Eye* .. .. .. 5th Ed. 1924
Clayton-Greene, W. H. [Ed.] *Pye's Surgical Handicraft* 9th Ed. 1924
Clayton, E. Bellis.. *Physiotherapy in General Practice* 1924
Davenport, C. B. .. *Body-build and its Inheritance* .. .. (3) 1923
Dumarest, F. & Brette, P. *La pratique du Pneumothorax thérapeutique* 1923
Fox, E. M. .. .. *First Steps in Nursing* 1924
Fuller, A. W. .. *Anæmia: its Causes and Modern Treatment* 2nd Ed. 1924
Godlee, Sir R. J., Bart. *Lord Lister* .. .. (4) 3rd Ed. 1924
Hall, P. .. .. .. *Ultra-Violet Rays in the Treatment and Cure of Disease* 1924
Handbook for Queen's Nurses 1924
Hewitt, C. R. [Ed.] *The Medical Year Book, 1925* 1924
Humphris, P. H. .. *Artificial Sunlight and its Therapeutic Uses* .. 1924
Hurst, A. [Ed.] .. *Guy's Hospital Reports, Oct., 1924* 1924
Hutchison and Rainy. *Clinical Methods* .. .. 8th Ed. 1924
Joslin, E. P. .. .. *Diabetic Metabolism with High and Low Diets* .. .. (3) 1923
Leslie, R. Murray *Pneumonia: its Pathology, Diagnosis, etc...* 1924
May and Worth .. *Diseases of the Eye* .. .. 5th Ed. 1924
Miles, W. R. .. *Alcohol and Human Efficiency* .. .. (3) 1924
Rawling, L. Bathe *Landmarks and Surface Markings of the Human Body* .. .. 6th Ed. 1924
Rolleston, J. D. .. *Acute Infectious Diseases*.. 1925
Rose and Carless .. *Manual of Surgery* .. .. 11th Ed. 1924
Saywell, E. .. .. *Sidelights from the New Psychology* 1924
Semon, Donaldson and Others. *A Synopsis of Special Subjects* 1924
Thomson, F. H. .. *Diagnosis and Treatment of the Infectious Diseases* 1924
Thomson, J. G. .. *Researches on Blackwater Fever in Southern Rhodesia* .. .. (6) 1924
Tubby, A. H. .. *The Advance of Orthopædic Surgery* 1924
Voronoff, S. .. .. *Quarante-trois greffes du Singe à l'Homme* .. 1924
„ .. .. *Greffe Animale* .. .. (10) 1924
Walker, J. H. .. *The Modern Nursing of Consumption* 2nd Ed. 1924

TRANSACTIONS, REPORTS, JOURNALS, &c.

American College of Physicians, Year Book, 1923-24	(1)	1924
American Pediatric Society, Transactions ..	Vol. XXXVI.	1924
American Pharmaceutical Association, Year Book, 1920 and 1922	(5)	
British Medical Association, Annual Handbook, 1924-25	(2)	1924
London Dermatological Society, Transactions and 13th Annual Report		1924
Medical Research Council, Report 89. Miners' 'Beat Knee,' etc.	(7)	1924
Proceedings of the Third International Congress of the History of Medicine	(8)	1923
Rockefeller Foundation, Annual Report, 1923	(9)	1923
St. Andrew's Institute for Clinical Research, Report of	Vol. II.	1924
St. Thomas's Hospital Reports	Vol. 46, 1922	1924
Surgical Clinics of North America ..	Vol. 4, No. 4, Aug., 1924	1924

Local Medical Notes.

MEDICAL SCHOOL DINNER.

THE Annual Dinner was held on December 11th at the Grand Hotel, Bristol. Mr. W. E. Miles, F.R.C.S., was the Guest of the Evening, and M. A. L. Flemming presided over a company numbering some 150. The President proposed the toast of "The King," and Dr. Charles Corfield then proposed the toast of "The Guest of the Evening." He spoke of Mr. Miles' position in the front rank of those surgeons who specialise in the lower alimentary tract, and of his work at the Cancer and Gordon Hospitals. Mr. Miles proposed the toast of the "Bristol Medical School," and referred to its long role of distinguished men. Surgeon-Commander Blatchford, R.N., responded for the Medical School. Professor Buckmaster proposed the toast of "The President," and Mr. Flemming suitably replied. A reception was afterwards given at the University by the wives of the Staff of the Faculty of Medicine.

EXAMINATION RESULTS.

UNIVERSITY OF BRISTOL.—Students of the University have recently passed the following examinations :—

M.B., Ch.B. BRISTOL.—*Part II.* (*Forensic Medicine and Toxicology only*) : R. H. Dummett.

DIPLOMA IN DENTAL SURGERY.—*Special Final Examination :* W. B. Bowrey, W. H. Greet, D. Griffiths, C. H. Hill, W. H. Phillips.

M.B. LONDON.—(*With Honours and Distinction in Medicine*): J. A. James, M.B., Ch.B., Bristol.

F.R.C.S. ENG. (Primary).—F. Langford, M.B., Ch.B., Bristol.

F.R.C.S. EDIN.—W. Jackman.

L.R.C.P., M.R.C.S.—Doris E. Joscelyne, F. G. Mogg, C. V. Powell.

CONJOINT BOARD.—*Final Examination, Medicine:* Y. M. de la Pasture, H. Rogers. *Surgery:* A. S. Cox, Dorothy E. Crellin, Constance I. Ham, D. C. Prowse, Sylvia M. Tasker-Smith. *Midwifery:* Elizabeth E. Benson, G. W. R. Bishop, Constance I. Ham, J. Hughes, W. G. R. Morris, L. G. Robertson, H. J. Satchwell, F. H. Woolley.

L.S.A.—*Midwifery:* Beryl Davis.

UNIVERSITY OF BRISTOL.—Students of the University have recently passed the following Supplementary Preliminary Science Examination for Dental Students, September, 1924:—

In Physics and Chemistry (*Completing Examination*): P. J. Whiteman. *In Physics only:* H. G. Clapp. *In Biology only:* C. R. H. Edwards.

B.D.S.—*2nd Examination in Dental Materia Medica* (*Completing Examination*): C. S. Cossham.

L.D.S.—*Final Examination:* G. C. Brooks, A. M. Cawsey, G. C. Friend, H. F. D. Lane, B. F. Robinson.

D.P.H.—J. Ledingham.

THE LONG FOX LECTURE will be delivered in December next by Dr. Carey Coombs. The subject will be announced later.

APPOINTMENTS.

Bristol Royal Infirmary.

S. H. Kingston, M.B., Ch.B., D.P.H., has been appointed to the new post of Dermatologist.

Eric Watson-Williams, M.C., M.B., M.Ch., F.R.C.S. Ed., has been appointed Assistant Surgeon to the Ear, Nose, and Throat Department.

University of Bristol.

Dr. D. C. Rayner has been appointed Director of Clinical Obstetrics.